



Health Risks Among North Carolina Adults: 1999

**With a Special Section on
Persons with Disabilities**

**A Report from the
Behavioral Risk Factor Surveillance System**



**Division of Public Health
State Center for Health Statistics
May 2001**

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May 2001

STATE OF NORTH CAROLINA

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A Report from the Behavioral Risk Factor Surveillance System

Introduction

The Behavioral Risk Factor Surveillance System (BRFSS) is a random telephone survey of adults. It is designed to collect information about health status, health behaviors, and use of health services that relate to the leading causes of illness and death in North Carolina and the United States. The North Carolina Division of Public Health has participated in the BRFSS since 1987. The BRFSS is a cooperative agreement with the Centers for Disease Control and Prevention (CDC) in which all 50 states, the District of Columbia, and three United States territories now participate.

Since 1999 the North Carolina BRFSS has been operated by the State Center for Health Statistics. The surveys are administered in the Telephone Interviewing Laboratory of the Center, which conducted 2,445 interviews in 1999 among a random sample of persons ages 18 and older. The current report uses data primarily for the year 1999, with some data from earlier years for comparison.

While fact sheets and other methods have been used to disseminate the BRFSS data in the past, this is the first comprehensive annual report for BRFSS in North Carolina. The plan is to produce this report on a regular basis so that trends in health status, health behaviors, and use of health services among North Carolina adults can be tracked over time. We hope that this information will assist public health program administrators and others in planning health improvement programs for the residents of North Carolina.

Topics included in this report fall into the following major categories: health status, health care access, diabetes, oral health, tobacco use, physical activity, weight control, HIV/AIDS, hypertension, cholesterol, alcohol consumption, folic acid, family planning, cancer screening, sexual assault, immunization, injury prevention, cardiovascular disease, arthritis, and disability.

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An electronic version of this report is available on the State Center for Health Statistics web site: <http://www.schs.state.nc.us/SCHS/pubs>.

For more information about the BRFSS, visit the CDC's BRFSS web site: <http://www.cdc.gov/nccdphp/brfss>. The CDC's BRFSS At-A-Glance publication is available at <http://www.cdc.gov/nccdphp/brfss/at-a-gl.htm>.

Methods

The North Carolina BRFSS survey contains a core set of questions developed by CDC which are asked each year by all states so that national estimates can be produced. Some of the core questions are asked every other year on a rotating basis. If a question included in this report was not asked in 1999, then the latest available year of data is included. The BRFSS survey also contains a number of optional CDC-developed questions, as well as state-added questions for North Carolina developed by public health programs in the Division of Public Health. Data for many of these questions are also included in this report. Nationwide data for CDC

core and optional questions were used to generate maps and trend graphs (if data were available 3 or more years). A clustering program was used to create four groups for the maps.

A CDC contractor supplies monthly samples of telephone numbers to the State Center for Health Statistics, generated using a disproportionate stratified random sample design developed by CDC. In 1999, approximately 1,100 numbers were called each month in an attempt to yield approximately 200 completed interviews. After contacting a household, one household member age 18 or older is randomly selected. If the selected person is not available at the time of the initial call, subsequent calls are made following a strict protocol in an attempt to complete the interview. Interviewers make up to 15 attempts to contact a selected respondent. The calls are made on different days of the week and at different times of the day and evening to yield the maximum number of completions.

For the BRFSS, it is difficult to calculate a true response rate, since many of the phone numbers are not household phone numbers (such as business or non-working numbers). The following table shows the outcome of all telephone calls for the 1999 survey.

Disposition of All Telephone Numbers, 1999 North Carolina BRFSS Sample

| | Number | Percent |
|---|--------|---------|
| Completed interview | 2,445 | 18.5 |
| Refused interview | 806 | 6.1 |
| Non-working telephone number | 6,064 | 45.9 |
| No answer (multiple times) | 854 | 6.5 |
| Not a private residence | 2,218 | 16.8 |
| No eligible respondent at that number | 69 | 0.5 |
| Selected respondent not available during interview period | 481 | 3.6 |
| Language barrier | 47 | 0.4 |
| Terminated during interview | 10 | 0.1 |
| Line busy (multiple times) | 161 | 1.2 |
| Respondent had physical or mental impairment | 44 | 0.3 |
| Total | 13,199 | 100 |

The final BRFSS sample data is weighted to adjust for unequal probabilities of selection due to the disproportionate sampling method and due to people living in households with different numbers of telephones and different numbers of adults. The final sample data is also weighted to account for unequal non-response rates among different demographic groups. For example, if white females ages 65 and older were 8 percent of the sample respondents, but this group was 6 percent of the total population of the state, then a factor of 0.75 would be entered into the last weighting process for these respondents to account for this discrepancy. One might expect this group to be more likely to be at home and more likely to have a telephone than some other demographic groups, and therefore more likely to complete an interview. Thus the weighting procedure makes the BRFSS data more representative of the total population of adults in the state. All of the percentages shown in the main tables of this report were calculated using the weighted data.

The following table presents for the 1999 survey the unweighted number of respondents, the unweighted percent of respondents, and the weighted percent of respondents by selected demographic characteristics.

Distribution of the 1999 North Carolina Survey Sample by Selected Characteristics

| | | Unweighted Number | Unweighted Percent | Weighted Percent |
|---------------------|--------------------|----------------------|-----------------------|---------------------|
| Total | | 2,445 | 100 | 100 |
| Sex | Males | 964 | 39.4 | 47.7 |
| | Females | 1,481 | 60.6 | 52.3 |
| Age | 18-24 | 188 | 7.7 | 13.3 |
| | 25-34 | 432 | 17.7 | 18.8 |
| | 35-44 | 500 | 20.4 | 20.7 |
| | 45-54 | 465 | 19.0 | 17.1 |
| | 55-64 | 310 | 12.7 | 12.0 |
| | 65+ | 530 | 21.7 | 17.4 |
| | Unknown/Refused | 20 | 0.3 | 0.8 |
| Race | White | 1,821 | 74.5 | 75.5 |
| | African American | 511 | 20.9 | 20.0 |
| | Other Minorities | 106 | 4.3 | 4.3 |
| | Unknown/Refused | 7 | 0.3 | 0.3 |
| Hispanic Origin | Yes | 58 | 2.4 | 2.7 |
| | No | 2,377 | 97.3 | 96.9 |
| | Unknown/Refused | 10 | 0.4 | 0.4 |
| Education | Less than H.S. | 422 | 17.3 | 16.2 |
| | H.S. or G.E.D. | 817 | 33.4 | 35.4 |
| | Some Post-H.S. | 551 | 22.5 | 23.6 |
| | College Graduate | 642 | 26.3 | 24.2 |
| | Unknown/Refused | 13 | 0.5 | 0.6 |
| Household Income | Less than \$15,000 | 262 | 10.7 | 9.1 |
| | \$15,000 – 24,999 | 430 | 17.6 | 17.9 |
| | \$25,000 – 34,999 | 412 | 16.9 | 17.2 |
| | \$35,000 – 49,999 | 371 | 15.2 | 16.1 |
| | \$50,000 + | 544 | 22.3 | 23.0 |
| | Unknown/Refused | 426 | 17.4 | 16.9 |

The demographic characteristics shown in the main tables of this report are generally the characteristics of the person responding to the survey. However, income reflects the reported annual income of the household from all household members and sources. Unless otherwise specified, respondents who answered that they did not know or who refused to answer were not included in the calculation of the percentages. Therefore, the sample sizes used to calculate the estimates in this report vary.

The main data tables in this report show the 95 percent confidence interval associated with each percentage (labeled C.I.). Since the results are based on a relatively small random sample of the total population of adults in North Carolina, the results will be subject to some degree of sampling error. The 95 percent confidence interval shows the range within which we would expect the true value for the entire population to fall 95 percent of the time. For smaller sample sizes (for example, for a particular age or race group), the confidence intervals will be wider. The confidence intervals shown in this report may not be exactly the same as those that CDC calculates for the same measures. We use a method that may result in non-symmetrical confidence intervals, which is more appropriate when the prevalence is close to 0 or 100 percent.

Given the complex nature of the BRFSS sample (i.e., it is not a simple random sample), the SUDAAN software was used to calculate the confidence intervals for the estimates. This software takes the complex sampling design into account when computing the errors of the estimates. In general, any percentage with a numerator of less than 50 will have a relatively large degree of sampling error and should be considered cautiously.

Tests of the statistical significance of a difference between two percentages (for example, between the percentages for two age groups) can be performed after calculating the standard error of the difference. The data user should contact BRFSS staff of the Center for assistance with this calculation. Though not exactly technically correct, a rough approximation of the statistical significance of a difference between two percentages can be derived by comparing the confidence intervals shown in the data tables of this report. If the confidence intervals of the two percentages being compared do not overlap, then it is likely that the difference between the two percentages is statistically significant at the 95 percent confidence level. Stated another way, one can be 95 percent certain that a difference that large would not be observed just due to random variation in the two percentages.

Organization of the Data

All of the data tables in this report are in the same format. The left-hand column shows the demographic group for which the data are displayed. The second column shows the total number of respondents in each category. The next columns show three items for each survey question: the number responding in the specified way to the question, the weighted percentage of respondents with the specified response, and the 95 percent confidence interval of the percentage. Note that the weighted percentage cannot be calculated directly from the unweighted numerator and denominator that are shown in the table. Notes about the particular data items are shown at the bottom of each table as appropriate.

In general, the overall percentage or mean is shown. In the state maps of the United States, the median state value is also shown, consistent with the way CDC often reports the BRFSS data. This is the value where half the states are above and half are below.

In the data tables, disability status is determined by the respondents' answers to several questions on the survey. A person was considered to have a disability status of "yes" if they reported a self-perceived disability, an activity limitation, use of special equipment, or a learning problem.

The percentage of persons ages 65+ is much higher in the lower education groups as compared to those with higher education. Therefore, to some extent the results for the lower education groups are affected by the age of these populations. For example, chronic disease rates are much higher among persons of lower education. This is due to the effects of both age and socioeconomic status.

Strengths and Limitations of the Survey Data

There are some significant advantages of the telephone survey methodology, including better quality control over data collection made possible by a computer-assisted-telephone-interviewing system, relatively low cost, and speed of data collection. The BRFSS methodology has been used and evaluated by the CDC and participating states since 1984. The content of the survey questions, questionnaire design, data collection procedures, interviewing techniques, and editing procedures have been carefully developed to improve data quality and lessen the potential for bias. The data collection is ongoing and each year new annual results become available.

One limitation of a telephone survey is the lack of coverage of persons who live in households without a telephone. Households without a telephone are, on average, of lower income. Therefore, for many of the health risks shown in this report, the results are likely to understate the true level of risk in the total population of adults in North Carolina. Since approximately 95 percent of households in North Carolina do have one or more telephones, the degree of understatement is probably not large.

A second limitation is due to the fact that the data is self-reported by the respondents. We expect that respondents tend to underreport health risk behaviors, especially those that are illegal or socially unacceptable.

The survey results presented here are purely descriptive. It is not possible to infer causes of the observed differences from the information presented here. For example, there are large differences between whites and African Americans on some of the measures. It should not be inferred that the differences are due to race alone. Social and economic factors associated with race often account for a large part of the differences observed between racial groups.

The results presented here for a single year of data must be approached with caution due to small numbers in some of the demographic sub-categories. The confidence intervals are provided as a means of interpreting the accuracy of the estimates. More detailed analyses of BRFSS survey topics would require pooling several years' data to increase the sample size.

General Health Status

NC adults who regard their overall health as fair or poor

- In 1999 about 18 percent of adults (age 18 and older) believed they had fair or poor health.
- Females (19.5%) were somewhat more likely than males (16.2%) to report having fair or poor health.
- For African Americans (23.9%), the rate was about 1½ times the rate for whites (16.5%).
- With respect to age, the highest rate of perceived fair/poor health (31.5%) was found among the 65+ age group.
- Close to half (46.3%) of those in the lowest income group (< \$15,000) believed they had fair or poor health, more than twice the rate (22.1%) for those in the next lowest income category (\$15,000-\$24,999).
- Persons with a disability (52.9%) claimed to have fair to poor health; almost 7 times that of persons with no disabilities (7.8%).

Fifteen or more days during previous 30 days when physical health was not good

- 10.8 percent of adults reported that their physical health was not good for 15 or more days out of the previous 30 days.
- Among age groups, the rate (19.9%) was highest for the 65+ age group.
- Those with less than a high school education had a significantly higher rate (20.3%) than for those with post high school or more education.
- The lowest income group (<\$15,000) had a substantially higher rate (31.8%) than all other income groups.
- Widowed individuals had a substantially higher rate (25.9%) than married individuals (9.3%) (results not shown in table).
- The rate among the disability population (35.3%) was more than eight times that of the no-disability population (3.7%).

Fifteen or more days during previous 30 days when poor physical or mental health impaired usual activities

- 6.3 percent of adults reported that because of poor physical or mental health their usual activities were impaired for at least 15 days during the previous 30 days.
- Males had a slightly higher rate than females, and African Americans had a slightly higher rate than whites.
- With respect to education and income, the highest rates were found among those with less than a high school degree (14.3%) and those with annual household incomes under \$15,000 (34.5%).
- For the disability group the rate (23.2%) was more than 10 times that of the no-disability group (1.3%).

Figure 1a. Fair or Poor General Health Status

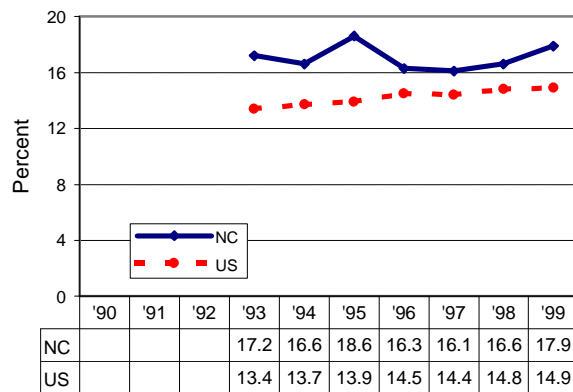


Figure 1b. Fair or Poor General Health Status, 1999

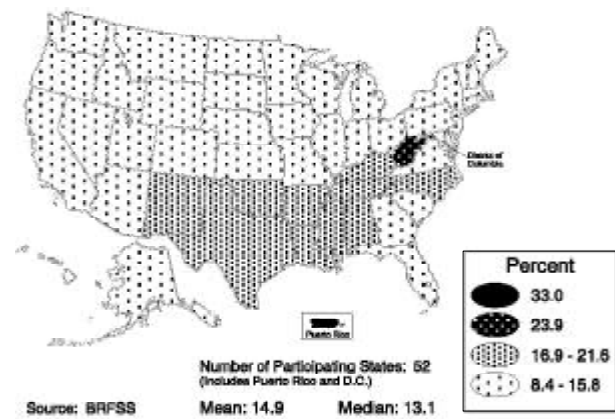


Table 1. Health Status of NC Adults, 1999

| Demographic Groups | Fair or Poor General Health | | | | Poor Physical Health 15 or More Days | | | | Mental or Physical Health Prevented Usual Activities | | | |
|--------------------|-----------------------------|-----|------|-----------|---|-----|------|-----------|--|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2441 | 467 | 17.9 | 16.2-19.8 | 2407 | 283 | 10.8 | 9.4-12.4 | 2432 | 175 | 6.3 | 5.3-7.5 |
| SEX | | | | | | | | | | | | |
| Male | 963 | 163 | 16.2 | 13.6-19.2 | 955 | 94 | 9.6 | 7.5-12.3 | 961 | 61 | 5.9 | 4.4-7.9 |
| Female | 1478 | 304 | 19.5 | 17.3-22.0 | 1452 | 189 | 11.9 | 10.2-13.8 | 1471 | 114 | 6.7 | 5.5-8.2 |
| RACE | | | | | | | | | | | | |
| White | 1861 | 326 | 16.5 | 14.6-18.6 | 1835 | 212 | 10.8 | 9.2-12.7 | 1854 | 132 | 6.2 | 5.1-7.6 |
| African American | 509 | 127 | 23.9 | 19.6-28.8 | 501 | 63 | 10.9 | 8.3-14.1 | 509 | 41 | 7.4 | 5.3-10.3 |
| AGE | | | | | | | | | | | | |
| 18-24 | 188 | 13 | 5.9 | 3.2-10.7 | 187 | 1 | 2.4 | 0.3-15.0 | 188 | 2 | 0.9 | 0.2- 3.6 |
| 25-34 | 432 | 34 | 10.3 | 6.6-15.8 | 429 | 28 | 7.5 | 4.7-11.8 | 430 | 16 | 4.3 | 2.2-8.4 |
| 35-44 | 500 | 66 | 13.3 | 10.3-16.9 | 496 | 39 | 7.7 | 5.5-10.7 | 499 | 25 | 4.3 | 2.8-6.4 |
| 45-54 | 465 | 82 | 18.0 | 14.3-22.4 | 459 | 50 | 11.6 | 8.6-15.4 | 461 | 35 | 7.5 | 5.2-10.7 |
| 55-64 | 309 | 80 | 26.4 | 21.4-32.1 | 302 | 54 | 17.1 | 13.0-22.1 | 309 | 38 | 12.0 | 8.6-16.6 |
| 65+ | 528 | 188 | 35.1 | 30.5-40.1 | 515 | 109 | 19.9 | 16.4-23.9 | 525 | 58 | 10.3 | 7.8-13.4 |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 419 | 189 | 41.9 | 36.4-47.6 | 406 | 98 | 20.3 | 16.5-24.8 | 416 | 68 | 14.3 | 11.1-18.2 |
| H.S. or G.E.D. | 817 | 157 | 18.6 | 15.7-21.9 | 806 | 100 | 11.5 | 9.2-14.3 | 815 | 56 | 6.6 | 4.8-9.0 |
| Some Post-H.S. | 551 | 70 | 11.5 | 8.6-15.3 | 547 | 52 | 9.5 | 6.6-13.5 | 549 | 27 | 4.3 | 2.8-6.4 |
| College Graduate | 641 | 47 | 6.8 | 4.9- 9.4 | 635 | 31 | 4.9 | 3.2- 7.3 | 639 | 23 | 2.7 | 1.7-4.2 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 262 | 129 | 46.3 | 38.7-53.9 | 253 | 91 | 31.8 | 25.6-38.7 | 258 | 63 | 22.1 | 17.0-28.2 |
| \$15,000- 24,999 | 430 | 99 | 22.1 | 17.6-27.5 | 422 | 52 | 12.0 | 8.9-16.0 | 427 | 27 | 5.7 | 3.7-8.6 |
| \$25,000- 34,999 | 412 | 63 | 15.3 | 11.8-19.5 | 410 | 35 | 7.8 | 5.5-10.9 | 412 | 22 | 5.2 | 3.3-8.0 |
| \$35,000- 49,999 | 370 | 34 | 9.2 | 6.4-12.9 | 366 | 19 | 4.6 | 2.9- 7.4 | 370 | 7 | 1.8 | 0.8-3.8 |
| \$50,000+ | 544 | 28 | 5.2 | 3.4- 7.9 | 543 | 23 | 5.6 | 3.1- 9.9 | 543 | 12 | 1.8 | 1.0- 3.3 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 550 | 287 | 52.9 | 47.8-57.8 | 534 | 199 | 35.3 | 30.8-40.2 | 541 | 136 | 23.2 | 19.5-27.4 |
| No | 1780 | 151 | 7.8 | 6.5- 9.2 | 1764 | 64 | 3.7 | 2.6- 5.0 | 1780 | 25 | 1.3 | 0.8- 2.0 |

Quality of Life

NC adults who are dissatisfied with life

- Overall, 5.4 percent of NC adults reported being dissatisfied or very dissatisfied with life.
- Life dissatisfaction rates were similar for males (5.0%) and females (5.7%).
- African Americans were somewhat more likely to be dissatisfied (7.1%) than whites (4.9%).
- Across age groups, life dissatisfaction tended to increase with age and was highest among the 45-54 group (7.3%); thereafter the rates began to decline.
- With respect to education, the highest rate of dissatisfaction was found among those in the post-high school group (6.9%), the lowest rate among college graduates (2.8%).
- With regard to household income, those in the less than \$15,000 group had the highest rate.
- The disability group had the highest rate (12.7%) of any demographic group shown in Table 2, however, the rate among divorcees was still higher (13.6%) (results not shown in table).

NC adults who receive inadequate emotional support

- About 7 percent of NC adults report that they rarely or never receive the emotional support they need.
- No significant differences in rates were observed with respect to gender.
- Those in the 65+ group had the highest rate of reported inadequate emotional support of any age group.
- The rate among those with less than a high school education (12.5%) was significantly higher than those with either post-high school or college education.
- Almost 2 out of 10 persons in the less than \$15,000 group reported inadequate emotional support (17%).
- Persons with disabilities had a significantly higher rate (12.6%) than those without disabilities (5.3%).

Figure 2a. Percentage of NC Adults Who Are Dissatisfied with Life by Education, 1999

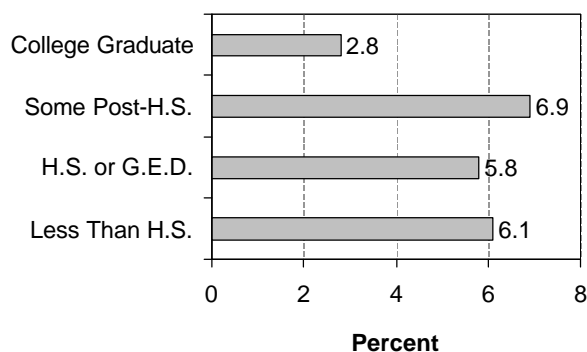


Figure 2b. Percentage of NC Adults Who Are Dissatisfied with Life by Disability Status, 1999

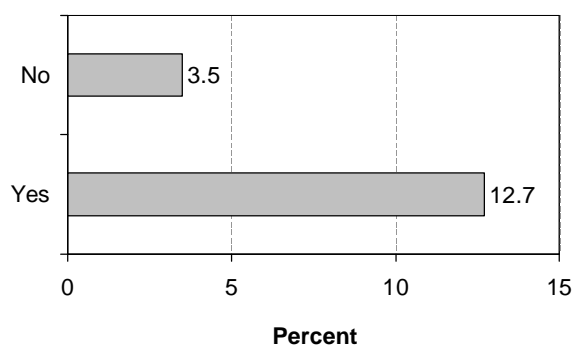


Figure 2c. Percentage of NC Adults Who Receive Inadequate Emotional Support by Income, 1999

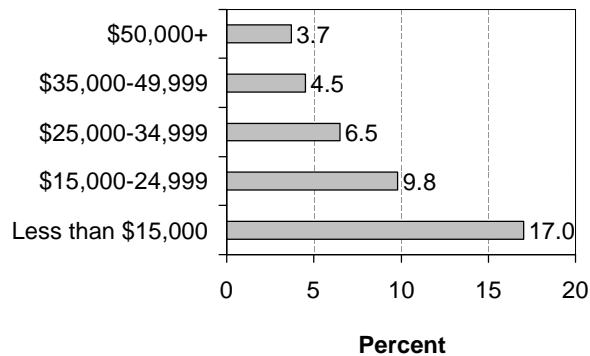


Figure 2d. Percentage of NC Adults Who Receive Inadequate Emotional Support by Marital Status, 1999

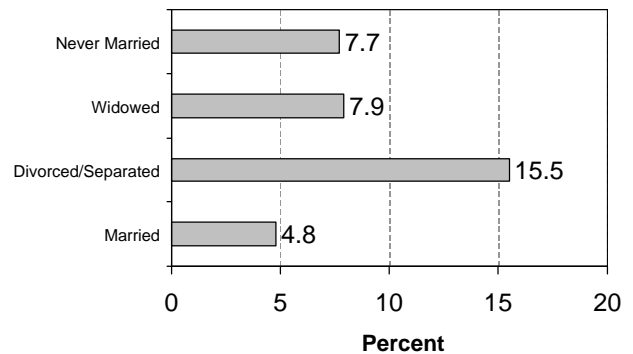


Table 2. Quality of Life of NC Adults, 1999

| Demographic Groups | Dissatisfied with Life | | | | Rarely or Never Receive Social or Emotional Support | | | |
|--------------------|------------------------|-----|------|----------|---|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2331 | 141 | 5.4 | 4.4- 6.5 | 2323 | 183 | 6.9 | 5.8- 8.1 |
| SEX | | | | | | | | |
| Male | 926 | 52 | 5.0 | 3.7- 6.8 | 924 | 75 | 6.7 | 5.3- 8.6 |
| Female | 1405 | 89 | 5.7 | 4.5- 7.2 | 1399 | 108 | 7.0 | 5.5- 8.8 |
| RACE | | | | | | | | |
| White | 1795 | 99 | 4.9 | 4.0- 6.2 | 1787 | 130 | 6.0 | 5.0- 7.2 |
| African American | 471 | 39 | 7.1 | 4.9-10.3 | 472 | 44 | 9.2 | 6.0-13.8 |
| AGE | | | | | | | | |
| 18-24 | 181 | 6 | 3.1 | 1.2- 7.8 | 182 | 6 | 2.8 | 1.1- 7.3 |
| 25-34 | 412 | 22 | 5.0 | 3.1- 8.0 | 415 | 24 | 7.1 | 4.2-11.8 |
| 35-44 | 482 | 37 | 6.7 | 4.6- 9.6 | 481 | 43 | 7.7 | 5.6-10.5 |
| 45-54 | 446 | 36 | 7.3 | 5.1-10.4 | 445 | 45 | 7.7 | 5.6-10.5 |
| 55-64 | 291 | 12 | 4.0 | 2.2- 7.1 | 291 | 16 | 5.3 | 3.2- 8.7 |
| 65+ | 503 | 27 | 4.9 | 3.2- 7.3 | 493 | 48 | 9.0 | 6.7-12.0 |
| EDUCATION | | | | | | | | |
| Less Than H.S. | 393 | 28 | 6.1 | 4.1- 9.0 | 390 | 56 | 12.5 | 9.5-16.3 |
| H.S. or G.E.D. | 771 | 53 | 5.8 | 4.2- 7.9 | 768 | 66 | 7.5 | 5.7- 9.8 |
| Some Post-H.S. | 538 | 42 | 6.9 | 5.0- 9.6 | 537 | 37 | 5.8 | 3.6- 9.2 |
| College Graduate | 625 | 18 | 2.8 | 1.6- 4.9 | 624 | 23 | 3.3 | 2.1- 5.1 |
| HOUSEHOLD INCOME | | | | | | | | |
| Less than \$15,000 | 246 | 28 | 10.3 | 6.8-15.2 | 244 | 41 | 17.0 | 11.1-25.2 |
| \$15,000- 24,999 | 405 | 32 | 6.6 | 4.3- 9.8 | 404 | 52 | 9.8 | 7.3-13.1 |
| \$25,000- 34,999 | 403 | 28 | 5.5 | 3.7- 8.2 | 404 | 27 | 6.5 | 4.3- 9.6 |
| \$35,000- 49,999 | 362 | 15 | 4.3 | 2.3- 7.8 | 361 | 18 | 4.5 | 2.5- 7.8 |
| \$50,000+ | 533 | 19 | 3.8 | 2.3- 6.4 | 534 | 22 | 3.7 | 2.3- 5.8 |
| DISABILITY STATUS | | | | | | | | |
| Yes | 535 | 70 | 12.7 | 9.8-16.3 | 536 | 67 | 12.6 | 9.4-16.8 |
| No | 1776 | 71 | 3.5 | 2.6- 4.5 | 1761 | 114 | 5.3 | 4.3- 6.5 |

Health Care Access

No health care coverage

- An estimated 1 in 10 North Carolinians (age 18 and older) in 1999 had no health care insurance; this proportion represents about 600,600 uninsured adults in the state.
- The uninsured rates were similar for males and females.
- African Americans had significantly higher uninsured rates (14.4%) than whites (8.9%).
- Those less than age 45 were significantly more likely to be uninsured than older persons; the highest rates were evident among the youngest age group: 18 to 24 year olds (17.7%).
- Those with less education (high school degree or less) were more likely than those with more education to be without health insurance.
- Approximately two in ten adults with household incomes of less than \$25,000 had no health care coverage in 1999.

Could not see doctor in the past year because of cost

- About 11 percent of NC adults could not see a doctor in the past year because of cost.
- The rate for females (11.8%) was slightly higher than that for males (10.0%).
- The rate for African Americans (14.7%) was significantly higher than the rate for whites (9.9%).
- Adults between the ages of 25 and 44 had higher rates than younger or older persons.
- About 2 out of 10 persons (20.7%) with less than a high school education reported that cost prevented them from seeing a doctor in the past year.
- Those with reported household incomes under \$25,000 had significantly higher rates than those in higher income groups.
- The rate for persons with disabilities (18.1%) was significantly higher than the rate for those with no disabilities (8.7%).

No routine health checkup in past two years

- 11.2 percent of NC adults reported no routine health checkup in the past two years.
- The rate for males (16.3%) was about 2½ times higher than the rate for females (6.6%).
- Whites (12.2%) were more likely than African Americans (6.5%) to report that they were without routine care in the past two years.
- Persons between 25 and 54 years of age were more likely to report no routine care than younger or older persons.
- Educational status did not appear to be strongly associated with routine health care.
- The rate for the disability population (8.6%) was noticeably lower than the rate for the no-disability population (12.1%).

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Increase the percentage of persons with health insurance to **100%** (NC, 1999 = 89.7%).

Figure 3a. No Health Care Coverage

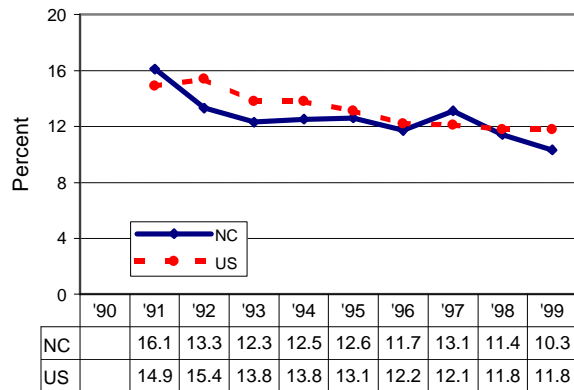


Figure 3b. No Health Care Coverage Anytime within the Last 12 Months, 1999

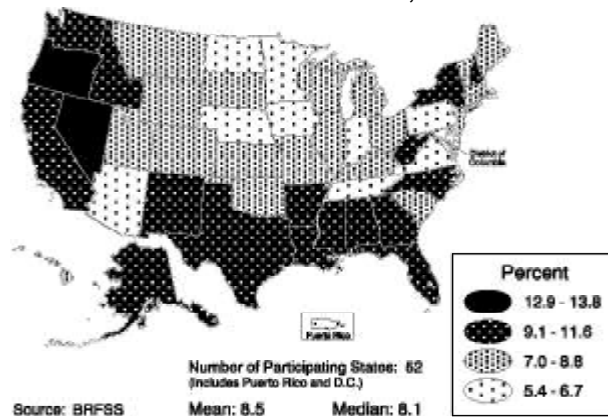


Table 3. Health Care Access of NC Adults, 1999

| Demographic Groups | No Health Coverage | | | | Could not See a Doctor Anytime within 12 Months due to Cost | | | | Did not Visit a Doctor for Routine Check-up within 2 Years | | | |
|--------------------|--------------------|-----|------|-----------|---|-----|------|-----------|--|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2442 | 227 | 10.3 | 8.9-12.0 | 2443 | 279 | 10.9 | 9.6-12.4 | 2428 | 256 | 11.2 | 9.8-12.8 |
| SEX | | | | | | | | | | | | |
| Male | 963 | 99 | 10.9 | 8.9-13.4 | 964 | 99 | 10.0 | 8.0-12.3 | 960 | 162 | 16.3 | 13.9-19.1 |
| Female | 1479 | 128 | 9.8 | 7.9-12.1 | 1479 | 180 | 11.8 | 10.0-13.8 | 1468 | 94 | 6.6 | 5.3- 8.1 |
| RACE | | | | | | | | | | | | |
| White | 1861 | 153 | 8.9 | 7.4-10.7 | 1861 | 192 | 9.9 | 8.5-11.6 | 1853 | 212 | 12.2 | 10.6-14.0 |
| African Am. | 510 | 62 | 14.4 | 10.9-18.9 | 511 | 79 | 14.7 | 11.4-18.8 | 505 | 32 | 6.5 | 4.4- 9.6 |
| AGE | | | | | | | | | | | | |
| 18-24 | 186 | 32 | 17.7 | 12.1-25.2 | 188 | 18 | 9.7 | 5.7-16.0 | 187 | 14 | 6.7 | 3.8-11.7 |
| 25-34 | 432 | 69 | 16.9 | 12.9-21.9 | 432 | 60 | 12.7 | 9.6-16.7 | 430 | 54 | 14.1 | 10.7-18.4 |
| 35-44 | 500 | 56 | 10.9 | 8.3-14.2 | 500 | 67 | 13.3 | 10.4-16.9 | 498 | 73 | 14.6 | 11.6-18.3 |
| 45-54 | 465 | 43 | 8.7 | 6.3-12.0 | 465 | 61 | 12.1 | 9.2-15.7 | 461 | 57 | 13.9 | 10.3-18.5 |
| 55-64 | 310 | 21 | 7.0 | 4.5-10.8 | 309 | 37 | 11.4 | 8.1-15.8 | 309 | 26 | 9.4 | 6.3-13.8 |
| 65+ | 529 | 6 | 1.2 | 0.5- 3.0 | 529 | 35 | 5.8 | 4.1- 8.3 | 524 | 30 | 6.4 | 4.4- 9.2 |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 422 | 59 | 17.6 | 13.3-22.9 | 421 | 90 | 20.7 | 16.7-25.4 | 414 | 44 | 11.6 | 8.5-15.6 |
| H.S. or G.E.D. | 815 | 92 | 12.3 | 9.8-15.5 | 816 | 109 | 13.3 | 10.8-16.4 | 810 | 98 | 13.1 | 10.6-16.1 |
| Some Post-H.S. | 551 | 47 | 8.9 | 6.4-12.3 | 551 | 50 | 7.7 | 5.7-10.3 | 551 | 52 | 10.2 | 7.6-13.7 |
| College Graduate | 641 | 29 | 4.2 | 2.8- 6.3 | 642 | 27 | 3.9 | 2.6- 5.9 | 640 | 61 | 9.4 | 7.2-12.2 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| < \$15,000 | 261 | 47 | 20.1 | 14.9-26.6 | 262 | 75 | 27.8 | 21.9-34.5 | 260 | 29 | 11.5 | 7.7-16.8 |
| \$15,000- 24,999 | 430 | 77 | 20.5 | 15.7-26.3 | 430 | 79 | 18.1 | 14.1-23.0 | 428 | 50 | 11.5 | 8.5-15.4 |
| \$25,000- 34,999 | 411 | 40 | 10.0 | 7.1-13.8 | 412 | 37 | 9.3 | 6.6-13.0 | 408 | 50 | 12.9 | 9.3-17.4 |
| \$35,000- 49,999 | 371 | 22 | 6.1 | 3.9- 9.4 | 371 | 22 | 5.8 | 3.7- 9.1 | 370 | 46 | 13.6 | 10.1-18.2 |
| \$50,000+ | 544 | 13 | 3.4 | 1.9- 6.0 | 544 | 15 | 2.9 | 1.7- 4.8 | 543 | 46 | 8.7 | 6.4-11.8 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 552 | 50 | 10.0 | 7.4-13.4 | 551 | 107 | 18.1 | 14.8-22.0 | 546 | 47 | 8.6 | 6.4-11.6 |
| No | 1778 | 162 | 9.9 | 8.3-11.8 | 1780 | 157 | 8.7 | 7.3-10.3 | 1772 | 201 | 12.1 | 10.5-14.0 |

Alcohol Consumption

Chronic drinking (60 or more drinks in the past month)

- Only 2.4 percent of NC adults reported that they had had 60 or more drinks in the past month (underreporting of this behavior is likely to be present in phone surveys, like the BRFSS).
- The reported rate of chronic drinking among males (4.3%) was about 7 times higher than the rate among females (0.6%).
- Whites (2.7%) were more than twice as likely as African Americans (1.1%) to report chronic drinking.
- By age, the highest rate was found among 35 to 44 year olds.
- By income groups, chronic drinking was most prevalent among the \$35,000 to \$49,999 income group.
- Divorced/separated persons had the highest rate of chronic drinking (5.0%) of any demographic group (not shown in table).

Acute drinking (5 or more drinks on at least one occasion in the past month)

- 12 percent of NC adults reported having 5 or more drinks on at least one occasion in the past month.
- The rate for males (19.4%) was almost 4 times higher than the rate for females (5.3%).
- The rate of acute drinking was higher for whites (12.8%) than African Americans (8.2%).
- The rate among 18 to 24 year olds (26.9%) exceeded that of all other age groups.
- By marital status, the highest rate of acute drinking (26.2%) was found among those who have never married (not shown in table).

Drinking and driving in the past month

- Fewer than 2 percent (1.7%) of NC adults reported that on one or more occasions in the past month they may have had too much to drink while driving (again, this behavior is likely to be under-reported, particularly given that it is an illegal activity).
- Males (2.5%) were more likely to report drinking and driving than females (1.0%).
- By education, the highest rate (2.1%) was found among college graduates.
- Similar to their elevated rate of acute drinking, those who have never married had the highest rate (5.1%) of reported drinking and driving, as compared to all other marital groups (not shown in table).

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Reduce the prevalence of heavy alcohol use in the past year among those aged 45 or older to **3%** (NC, 1999 = **5.4%**).

Figure 4a. Chronic Drinking (Consumed 60+ Alcoholic Drinks in the Past Month)

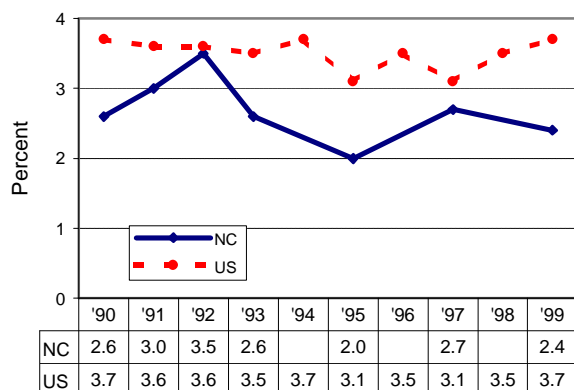


Figure 4b. Chronic Drinking (Consumed 60+ Alcoholic Drinks in the Past Month), 1999



Table 4. Alcohol Consumption of NC Adults, 1999

| Demographic Groups | Chronic Drinking | | | | Acute Drinking | | | | Drinking and Driving | | | |
|--------------------|------------------|----|-----|----------|----------------|-----|------|-----------|----------------------|----|-----|----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2380 | 57 | 2.4 | 1.8- 3.2 | 2407 | 242 | 12.0 | 10.4-13.7 | 2431 | 33 | 1.7 | 1.1- 2.6 |
| SEX | | | | | | | | | | | | |
| Male | 924 | 47 | 4.3 | 3.1- 5.9 | 937 | 174 | 19.4 | 16.5-22.6 | 956 | 20 | 2.5 | 1.4- 4.4 |
| Female | 1456 | 10 | 0.6 | 0.3- 1.2 | 1470 | 68 | 5.3 | 4.0- 7.1 | 1475 | 13 | 1.0 | 0.5- 1.8 |
| RACE | | | | | | | | | | | | |
| White | 1822 | 48 | 2.7 | 2.0- 3.7 | 1842 | 194 | 12.8 | 10.9-14.9 | 1858 | 27 | 1.9 | 1.1- 3.0 |
| African American | 490 | 7 | 1.1 | 0.5- 2.5 | 497 | 38 | 8.2 | 5.6-11.8 | 505 | 5 | 1.0 | 0.4- 2.7 |
| AGE | | | | | | | | | | | | |
| 18-24 | 178 | 3 | 1.1 | 0.4- 3.5 | 183 | 44 | 26.9 | 20.0-35.2 | 187 | 4 | 2.3 | 0.8- 6.5 |
| 25-34 | 422 | 9 | 2.6 | 1.2- 5.4 | 428 | 72 | 18.8 | 14.6-24.0 | 432 | 13 | 4.2 | 2.0- 8.6 |
| 35-44 | 488 | 17 | 3.4 | 2.0- 5.6 | 494 | 59 | 10.6 | 8.2-13.7 | 499 | 11 | 1.9 | 1.0- 3.6 |
| 45-54 | 453 | 14 | 3.0 | 1.6- 5.5 | 454 | 42 | 9.9 | 7.0-13.7 | 461 | 5 | 1.0 | 0.4- 2.7 |
| 55-64 | 301 | 6 | 1.8 | 0.8- 4.3 | 307 | 12 | 3.5 | 1.9- 6.4 | 307 | 0 | 0.0 | — |
| 65+ | 521 | 8 | 1.7 | 0.8- 3.5 | 523 | 12 | 2.4 | 1.4- 4.4 | 527 | 0 | 0.0 | — |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 408 | 9 | 2.5 | 1.2- 5.1 | 413 | 31 | 8.9 | 6.0-13.0 | 420 | 2 | 0.4 | 0.1- 1.8 |
| H.S. or G.E.D. | 789 | 17 | 2.2 | 1.3- 3.8 | 802 | 68 | 10.1 | 7.7-13.2 | 812 | 10 | 2.0 | 0.8- 4.5 |
| Some Post-H.S. | 538 | 19 | 3.5 | 2.1- 5.7 | 544 | 68 | 14.9 | 11.5-19.0 | 549 | 9 | 1.8 | 0.9- 3.5 |
| College Graduate | 634 | 12 | 1.4 | 0.8- 2.6 | 637 | 74 | 13.6 | 10.5-17.5 | 639 | 12 | 2.1 | 1.0- 4.1 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 257 | 7 | 3.1 | 1.3- 7.1 | 260 | 17 | 8.9 | 5.1-15.1 | 261 | 3 | 2.0 | 0.5- 7.6 |
| \$15,000- 24,999 | 417 | 6 | 1.8 | 0.7- 4.6 | 421 | 40 | 12.0 | 8.2-17.0 | 430 | 7 | 1.9 | 0.8- 4.6 |
| \$25,000- 34,999 | 406 | 13 | 3.2 | 1.7- 5.9 | 409 | 51 | 16.2 | 12.1-21.2 | 411 | 8 | 2.2 | 1.1- 4.5 |
| \$35,000- 49,999 | 364 | 14 | 3.4 | 2.0- 5.9 | 368 | 46 | 12.8 | 9.3-17.2 | 370 | 5 | 1.3 | 0.5- 3.3 |
| \$50,000+ | 534 | 14 | 2.2 | 1.2- 3.9 | 540 | 71 | 13.3 | 10.3-16.9 | 542 | 7 | 0.9 | 0.4- 2.4 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 540 | 14 | 2.8 | 1.5- 5.2 | 548 | 40 | 8.1 | 5.6-11.4 | 550 | 5 | 1.3 | 0.5- 3.8 |
| No | 1739 | 41 | 2.3 | 1.6- 3.2 | 1754 | 193 | 13.0 | 11.2-15.1 | 1774 | 25 | 1.5 | 0.9- 2.3 |

Diabetes

Prevalence of diabetes

- 6.1 percent of NC adults reported being told by a doctor that they had diabetes (excluding pregnancy-related diabetes).
- Males had a lower rate of diagnosed diabetes (5.6%) than females (6.7%).
- The prevalence of diabetes was twice as high among African Americans (10.4%) as whites (5.1%).
- The prevalence of diabetes increased significantly with age.
- Education and household income were inversely related to diabetes; the prevalence of being diagnosed with diabetes decreased with increasing education and with increasing household income .
- The reported prevalence of diabetes decreased in the mid-1990s but increased to 1990 levels in the late 1990s.

Insulin use

- 32.2 percent of adults with diabetes reported using insulin.

Monitored blood glucose

- 53.3 percent of NC adults with diabetes monitored their blood glucose level daily and 71.2 percent monitored their blood glucose at least once a week.

Had a glycosylated hemoglobin measurement at least once a year

- Among NC adults with diabetes, 28.3 percent had a glycosylated hemoglobin measurement at least once a year.

Visited a health professional for diabetes in the past year

- 91.1 percent of NC adults with diabetes visited a health professional at least once within the past 12 months.

Had feet checked by a health professional in the past year

- Nearly 80 percent of diabetic adults had their feet checked by a health professional within the last 12 months.

Had dilated eye exam in the past year

- 71.3 percent of adults with diabetes had a dilated eye exam within the last 12 months.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Increase the percentage of adults with diabetes who have a glycosylated hemoglobin measurement at least once a year to **41%**. (NC, 1999 = **28.3%**)
- Increase the percentage of older adults with diabetes who have an annual dilated eye examination to **73.6%** (NC, 1999 = **71.3%**).
- Increase the percentage of older adults with diabetes who have an annual foot examination to **84.5%** (NC, 1999 = **80.0%**).

Figure 5a. Diabetes Prevalence

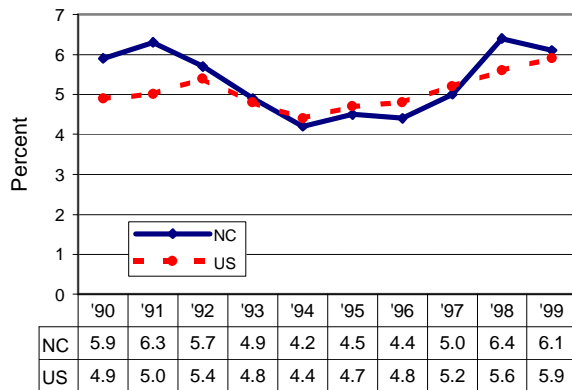


Figure 5b. Diabetes Prevalence, 1999

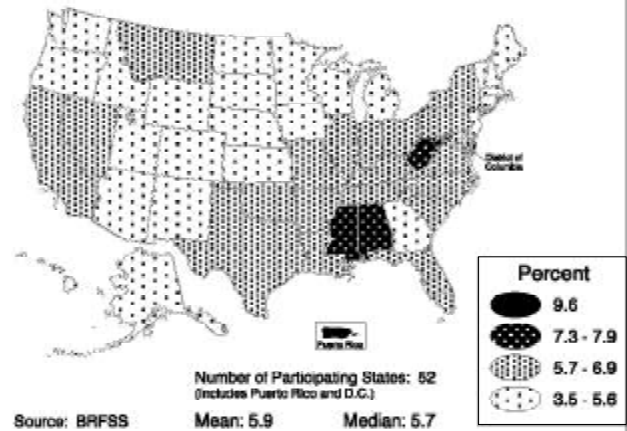


Table 5. Diabetes Prevalence among NC Adults, 1999

| Demographic Groups | Diabetes Prevalence | | | |
|--------------------|---------------------|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2442 | 175 | 6.1 | 5.2- 7.2 |
| SEX | | | | |
| Male | 964 | 65 | 5.6 | 4.3- 7.2 |
| Female | 1478 | 110 | 6.7 | 5.4- 8.2 |
| RACE | | | | |
| White | 1860 | 105 | 5.1 | 4.1- 6.2 |
| African American | 511 | 66 | 10.4 | 7.9-13.5 |
| AGE | | | | |
| 18-24 | 188 | 1 | 0.4 | 0.1- 2.5 |
| 25-34 | 432 | 10 | 2.3 | 1.2- 4.5 |
| 35-44 | 500 | 19 | 3.4 | 2.1- 5.6 |
| 45-54 | 465 | 32 | 6.6 | 4.5- 9.5 |
| 55-64 | 309 | 43 | 14.0 | 10.2-18.8 |
| 65+ | 528 | 67 | 11.9 | 9.2-15.2 |
| EDUCATION | | | | |
| Less Than H.S. | 419 | 53 | 10.9 | 8.2-14.4 |
| H.S. or G.E.D. | 817 | 53 | 5.1 | 3.8- 6.9 |
| Some Post-H.S. | 551 | 35 | 6.2 | 4.3- 8.8 |
| College Graduate | 642 | 33 | 4.4 | 3.1- 6.3 |
| HOUSEHOLD INCOME | | | | |
| Less than \$15,000 | 260 | 35 | 10.7 | 7.4-15.1 |
| \$15,000- 24,999 | 430 | 29 | 5.8 | 3.8- 8.6 |
| \$25,000- 34,999 | 412 | 23 | 5.6 | 3.5- 8.7 |
| \$35,000- 49,999 | 371 | 21 | 4.5 | 2.8- 7.0 |
| \$50,000+ | 544 | 21 | 3.6 | 2.2- 5.6 |
| DISABILITY STATUS | | | | |
| Yes | 551 | 70 | 11.4 | 8.8-14.7 |
| No | 1779 | 90 | 4.2 | 3.4- 5.3 |

Immunization

No Flu shot within the last 12 months (age 40+)

- 61 percent of adults, ages 40 and older, reported not having a flu shot within the last 12 months.
- The rate was higher for males than females and higher for African Americans than whites.
- About three fourths (76.9%) of the 40-49 age group, about two-thirds (67.6%) of 50-64 age group, and about one third (35.8%) of the 65+ age group reported *not* having a flu shot in the last 12 months.
- No significant differences in rates were observed with respect to education or income.
- Since 1993, the rate of not receiving a flu shot has decreased by about 25 percent among NC adults ages 40 years or older.

Never Had a Pneumonia vaccination (age 40+)

- Almost three quarters (74.4 %) of NC adults, ages 40 and older, never had a pneumonia vaccination (NPV).
- Males and African Americans had higher NPV rates than did females or whites, respectively.
- Those in the 40 to 49 age group (93.9%) and those in 50 to 64 age group (84.7%) had substantially higher NPV rates than those ages 65 and older (41.5%).
- Rates of never having a pneumonia vaccination increased with increasing levels of education and increasing levels of household income.
- Adults with no disabilities were significantly more likely than members of the disability population to never have had a pneumonia vaccination.
- The rate of never having a pneumonia vaccination among NC adults ages 40 years or older dropped from 86.3 percent in 1993 to 74.4 percent in 1999.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Increase the percentage of adults 65 years of age or older who are vaccinated annually against influenza to **75% (NC, 1999 = 64.2%)**.
- Increase the percentage of adults 65 years of age or older who are ever vaccinated against pneumococcal disease to **75% (NC, 1999 = 58.5%)**.

Figure 6a. No Flu Shot in the Past 12 Months (age 40+)

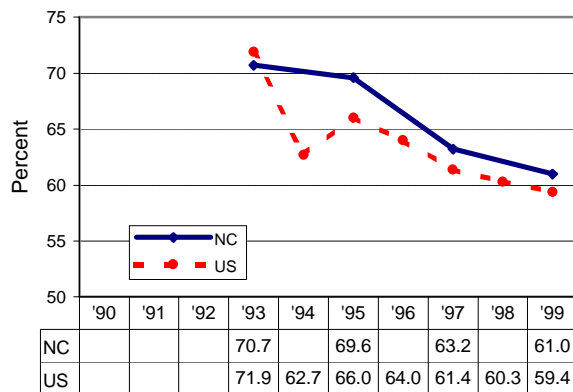


Figure 6b. No Flu Shot in the Past 12 Months (age 40+), 1999

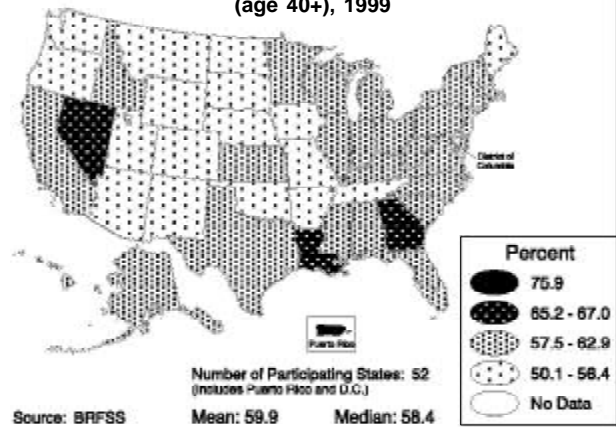


Table 6. Flu and Pneumonia Immunization of NC Adults (Age 40+), 1999

| Demographic Groups | Did Not Have a Flu Shot in Past 12 Months | | | | Never Had a Pneumonia Vaccination | | | |
|--------------------------|---|-----|------|-----------|-----------------------------------|------|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 1533 | 924 | 61.0 | 58.2-63.7 | 1503 | 1099 | 74.4 | 71.8-76.8 |
| SEX | | | | | | | | |
| Male | 590 | 378 | 63.8 | 59.3-68.1 | 571 | 437 | 76.7 | 72.4-80.4 |
| Female | 943 | 546 | 58.5 | 55.0-61.9 | 932 | 662 | 72.5 | 69.3-75.5 |
| RACE | | | | | | | | |
| White | 1215 | 696 | 58.5 | 55.3-61.6 | 1195 | 849 | 72.9 | 70.0-75.7 |
| African American | 286 | 203 | 71.3 | 65.2-76.7 | 276 | 223 | 80.4 | 74.6-85.2 |
| AGE | | | | | | | | |
| 40-49 | 484 | 377 | 76.9 | 72.4-80.9 | 472 | 444 | 93.9 | 90.9-96.0 |
| 50-64 | 527 | 353 | 67.6 | 63.0-71.8 | 518 | 437 | 84.7 | 81.0-87.8 |
| 65+ | 522 | 194 | 35.8 | 31.4-40.5 | 513 | 218 | 41.5 | 36.8-46.3 |
| EDUCATION | | | | | | | | |
| Less Than H.S. | 333 | 195 | 59.5 | 53.1-65.6 | 324 | 217 | 67.8 | 61.3-73.7 |
| H.S. or G.E.D. | 506 | 319 | 65.1 | 60.5-69.5 | 495 | 372 | 77.7 | 73.6-81.3 |
| Some Post-H.S. | 312 | 193 | 61.9 | 55.8-67.7 | 306 | 226 | 73.3 | 67.4-78.4 |
| College Graduate | 380 | 215 | 55.2 | 49.5-60.7 | 376 | 282 | 76.3 | 71.1-80.7 |
| HOUSEHOLD INCOME | | | | | | | | |
| Less than \$15,000 | 198 | 115 | 59.7 | 51.7-67.2 | 196 | 134 | 69.9 | 62.4-76.6 |
| \$15,000- 24,999 | 254 | 144 | 55.4 | 48.0-62.6 | 250 | 160 | 64.2 | 56.6-71.2 |
| \$25,000- 34,999 | 214 | 132 | 62.7 | 55.1-69.6 | 210 | 156 | 76.8 | 69.9-82.5 |
| \$35,000- 49,999 | 219 | 146 | 67.2 | 60.1-73.6 | 215 | 172 | 80.2 | 73.8-85.4 |
| \$50,000+ | 341 | 216 | 62.0 | 56.1-67.5 | 336 | 280 | 83.0 | 78.1-87.0 |
| DISABILITY STATUS | | | | | | | | |
| Yes | 442 | 229 | 51.9 | 46.4-57.4 | 433 | 282 | 64.3 | 58.6-69.6 |
| No | 1027 | 653 | 64.3 | 61.0-67.5 | 1008 | 774 | 78.6 | 75.8-81.2 |

Oral Health

Not visited a dentist or dental clinic within the past year

- Nearly one-third (32.8%) of NC adults reported that they did not visit a dentist or dental clinic within the past year.
- African Americans were about 1.5 times more likely (44.7%) than whites (29.8%) to report not visiting a dentist or dental clinic in the past year.
- Across age groups, the rate was highest among persons age 65 and over (40.1%).
- More than half of all persons with less than a high school education (55.6%) reported no dental visit in the past year.
- The rate was about 50 percent for all persons in the lowest income groups (<\$25,000).
- Persons reporting a disability had a substantially higher rate (43.9%) than those with no disability (28.3%).
- Uninsured persons had the highest rate (55.9%) of any demographic group (data not shown in table).

Lost one or more teeth due to tooth decay or gum disease

- About 70 percent of NC adults reported that they had lost one or more teeth due to tooth decay or gum disease.
- Females (74.1%) were somewhat more likely than males (67.5%) to report tooth loss.
- The rate for African Americans (81.8%) was substantially higher than the rate for whites (68.1%).
- About 9 out of 10 older adults (65+ yrs.) reported tooth loss, the highest incidence of any age group.
- Some of the highest rates were found among those with less than a high school education (88.8%), or with household incomes of less \$15,000 (83.4%), or with a reported disability (82.8%).

Not had teeth cleaned by dentist or dental hygienist within the past year

- About 30 percent of NC adults reported not having their teeth professionally cleaned within the past year.
- The rate of no dental cleaning for African Americans (44.1%) was substantially higher than the rate for whites (28.1%).
- Persons ages 25 to 34 were more likely than any other age group to report that they had not had their teeth cleaned.
- Persons with no health insurance had the highest rate (60.3%) (data not shown in table); high rates were also found among those with less than a high school degree (53.2%) and those with household incomes under \$25,000.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Increase the percentage of adults visiting a dentist in the past year to at least **73.9%** (NC, 1999 = 67.2%).
- Reduce percentage of adults, ages 45-64, who lost 5 or more teeth due to tooth decay to at least **20%** (NC, 1999 = 30.1%).

Figure 7a. Percentage of NC Adults Who Did Not Visit a Dentist in the Past Year by Income, 1999

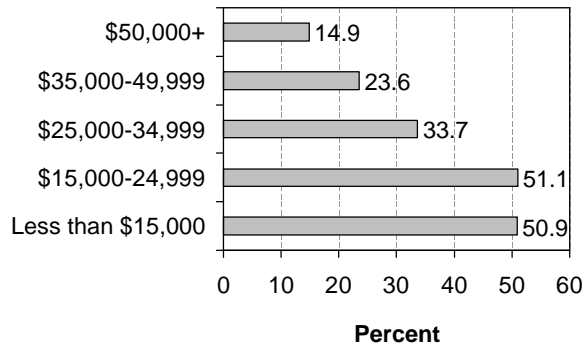


Figure 7b. Not Visited a Dentist or Dental Clinic in the Past Year, 1999

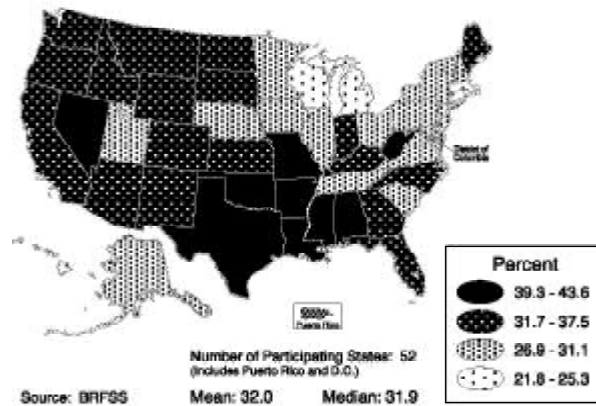


Table 7. Oral Health Status of NC Adults, 1999

| Demographic Groups | Did Not Visit a Dentist or Dental Clinic within a Year | | | | Lost One or More Teeth due to Tooth Decay or Gum Disease | | | | Not Had Teeth Cleaned within a Year | | | |
|--------------------|--|-----|------|-----------|--|------|------|-----------|-------------------------------------|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2421 | 798 | 32.8 | 30.6-35.1 | 2422 | 1789 | 70.9 | 68.6-73.1 | 2153 | 653 | 31.2 | 28.9-33.7 |
| SEX | | | | | | | | | | | | |
| Male | 961 | 324 | 34.8 | 31.3-38.4 | 958 | 681 | 67.5 | 63.8-71.1 | 867 | 273 | 33.2 | 29.6-37.0 |
| Female | 1460 | 474 | 31.0 | 28.3-33.9 | 1464 | 1108 | 74.1 | 71.2-76.7 | 1286 | 380 | 29.4 | 26.4-32.5 |
| RACE | | | | | | | | | | | | |
| White | 1843 | 555 | 29.8 | 27.4-32.3 | 1842 | 1317 | 68.1 | 65.4-70.7 | 1646 | 446 | 28.1 | 25.6-30.8 |
| African American | 509 | 219 | 44.7 | 39.4-50.1 | 510 | 420 | 81.8 | 77.2-85.6 | 440 | 184 | 44.1 | 38.4-50.1 |
| AGE | | | | | | | | | | | | |
| 18-24 | 186 | 52 | 29.5 | 22.4-37.8 | 188 | 88 | 45.3 | 37.1-53.8 | 182 | 53 | 32.9 | 25.3-41.6 |
| 25-34 | 432 | 139 | 35.5 | 29.9-41.6 | 432 | 234 | 54.2 | 48.5-59.8 | 424 | 137 | 35.6 | 29.9-41.7 |
| 35-44 | 498 | 130 | 26.3 | 22.3-30.8 | 498 | 338 | 68.4 | 63.7-72.7 | 488 | 138 | 28.6 | 24.4-33.2 |
| 45-54 | 463 | 153 | 33.9 | 29.0-39.2 | 461 | 365 | 78.9 | 73.8-83.2 | 426 | 136 | 33.5 | 28.3-39.2 |
| 55-64 | 308 | 99 | 32.8 | 27.3-38.7 | 304 | 265 | 87.7 | 83.2-91.1 | 247 | 61 | 23.5 | 18.3-29.7 |
| 65+ | 516 | 221 | 40.1 | 35.5-44.9 | 521 | 487 | 93.3 | 90.5-95.3 | 370 | 124 | 30.9 | 26.0-36.3 |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 410 | 232 | 55.6 | 49.8-61.2 | 417 | 378 | 88.8 | 84.4-92.1 | 288 | 151 | 53.2 | 46.3-60.1 |
| H.S. or G.E.D. | 810 | 288 | 35.4 | 31.6-39.4 | 812 | 636 | 73.3 | 69.2-77.0 | 716 | 247 | 35.2 | 31.0-39.5 |
| Some Post-H.S. | 549 | 159 | 29.3 | 24.8-34.2 | 544 | 373 | 65.5 | 60.3-70.4 | 517 | 139 | 27.8 | 23.1-32.9 |
| College Graduate | 641 | 117 | 18.2 | 14.9-22.0 | 637 | 392 | 60.7 | 56.2-65.0 | 624 | 115 | 19.0 | 15.6-22.9 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 259 | 144 | 50.9 | 43.1-58.5 | 260 | 233 | 83.4 | 75.0-89.4 | 188 | 94 | 48.0 | 38.8-57.3 |
| \$15,000- 24,999 | 425 | 210 | 51.1 | 45.0-57.2 | 429 | 349 | 77.4 | 71.6-82.4 | 353 | 166 | 49.9 | 43.1-56.7 |
| \$25,000- 34,999 | 409 | 132 | 33.7 | 28.5-39.3 | 408 | 297 | 70.0 | 64.3-75.1 | 381 | 120 | 34.7 | 29.2-40.7 |
| \$35,000- 49,999 | 371 | 85 | 23.6 | 19.1-28.8 | 368 | 260 | 68.9 | 63.3-74.0 | 357 | 87 | 24.5 | 19.9-29.8 |
| \$50,000+ | 543 | 76 | 14.9 | 11.7-18.8 | 543 | 319 | 58.9 | 54.0-63.7 | 531 | 67 | 13.7 | 10.5-17.6 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 543 | 240 | 43.9 | 38.9-49.0 | 547 | 467 | 82.8 | 78.4-86.5 | 427 | 160 | 37.6 | 32.1-43.4 |
| No | 1770 | 515 | 29.3 | 26.8-31.9 | 1765 | 1233 | 67.3 | 64.6-69.9 | 1634 | 460 | 29.2 | 26.5-31.9 |

Arthritis (1998)

Ever told by a doctor that you have arthritis

- About one in five NC adults, or 22.6 percent, have been told by a doctor that they have arthritis.
- The proportion of females with arthritis (27.1%) was substantially higher than the proportion of males (17.7%) with arthritis.
- The rates were about the same for whites (23.3%) and African Americans (20.3%).
- Among the youngest age groups (18-34 yrs.) the prevalence of arthritis was low; among the oldest age group (65+ yrs.), the prevalence of arthritis was nearly 50 percent (47.3%).
- The incidence of arthritis appears to be inversely associated with education, so that as education levels increase the prevalence decreases.
- The rate of reported arthritis among those in very low income households (40.7%) was almost 3½ times higher than the rate reported among those in upper income households (11.8%).
- 50 percent of persons with disabilities reported having arthritis; less than 14.8 percent of the no-disability population reported having arthritis.
- Among widowed persons, the rate (52.5%) was nearly the same as that found among the disability group (data not shown in table).

Figure 8a. Percentage of NC Adults Who Are Told by Doctor They Had Arthritis by Age, 1998

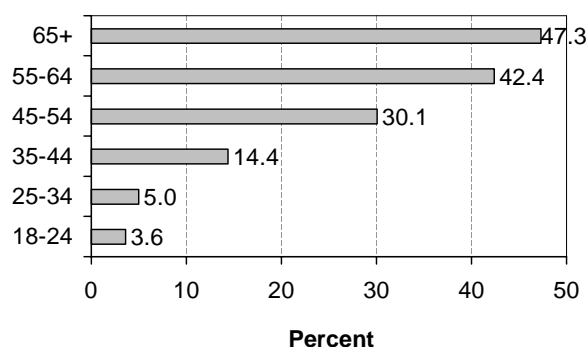


Figure 8b. Percentage of NC Adults Who Are Told by Doctor They Had Arthritis by Education, 1998

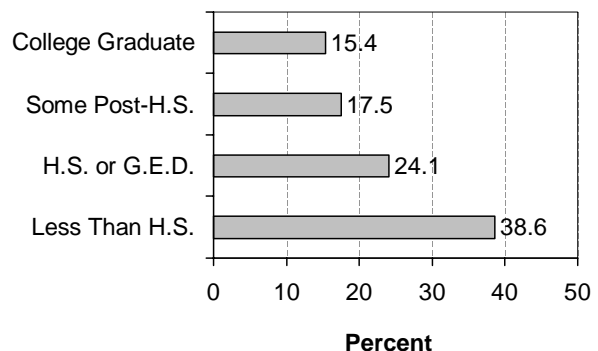


Figure 8c. Percentage of NC Adults Who Are Told by Doctor They Had Arthritis by Income, 1998

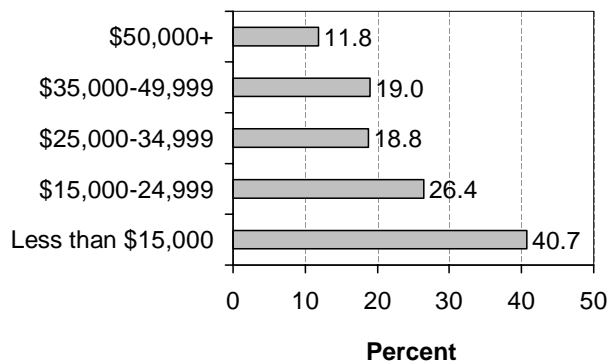


Figure 8d. Percentage of NC Adults Who Are Told by Doctor They Had Arthritis by Disability, 1998

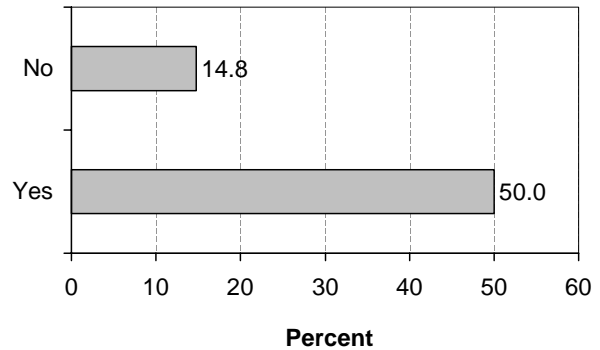


Table 8. Arthritis among NC Adults, 1998

| Demographic Groups | Told by Doctor They had Arthritis | | | |
|--------------------|-----------------------------------|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2295 | 600 | 22.6 | 20.7-24.7 |
| SEX | | | | |
| Male | 887 | 180 | 17.7 | 14.9-20.8 |
| Female | 1408 | 420 | 27.1 | 24.5-29.9 |
| RACE | | | | |
| White | 1775 | 474 | 23.3 | 21.1-25.6 |
| African American | 463 | 112 | 20.3 | 16.3-25.1 |
| AGE | | | | |
| 18-24 | 183 | 9 | 3.6 | 1.6- 7.7 |
| 25-34 | 443 | 31 | 5.0 | 3.3- 7.6 |
| 35-44 | 503 | 72 | 14.4 | 11.1-18.5 |
| 45-54 | 378 | 116 | 30.1 | 24.8-35.9 |
| 55-64 | 300 | 128 | 42.4 | 35.6-49.6 |
| 65+ | 480 | 242 | 47.3 | 42.1-52.6 |
| EDUCATION | | | | |
| Less Than H.S. | 397 | 182 | 38.6 | 32.4-45.2 |
| H.S. or G.E.D. | 746 | 192 | 24.1 | 20.5-28.1 |
| Some Post-H.S. | 597 | 123 | 17.5 | 14.4-21.1 |
| College Graduate | 548 | 102 | 15.4 | 12.4-19.0 |
| HOUSEHOLD INCOME | | | | |
| Less than \$15,000 | 304 | 138 | 40.7 | 33.7-48.1 |
| \$15,000- 24,999 | 442 | 127 | 26.4 | 21.8-31.6 |
| \$25,000- 34,999 | 405 | 79 | 18.8 | 14.7-23.6 |
| \$35,000- 49,999 | 361 | 77 | 19.5 | 15.4-24.4 |
| \$50,000+ | 425 | 61 | 11.8 | 8.7-15.6 |
| DISABILITY STATUS | | | | |
| Yes | 567 | 318 | 50.0 | 44.5-55.4 |
| No | 1622 | 264 | 14.8 | 12.9-17.0 |

HIV/AIDS

Belief of a high or medium chance of getting infected with the HIV virus

- Overall, about 6 percent of NC adults believed they had a high or medium chance of getting infected with HIV; this rate represents an estimated total of about 275,000 individuals between 18 and 64 years of age.
- The proportion did not vary by gender.
- The proportions were about the same for whites (5.8%) and African Americans (6.0%).
- Those in the 35 to 44 age group (7.5%) were somewhat more likely than younger or older adults to believe they had a high/medium chance of becoming infected with HIV.
- With respect to education and income, the rates were slightly higher for those with a college education or household income of \$50,000 or more.

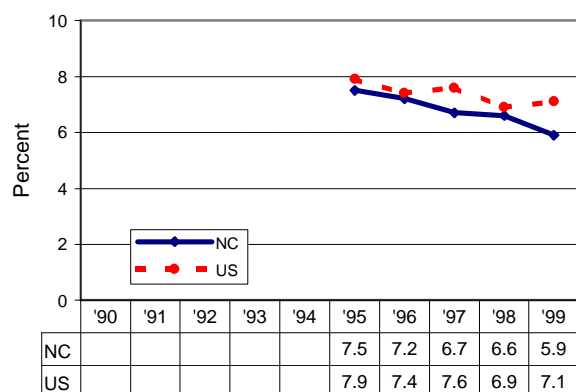
Ever tested for the HIV virus

- In 1999, slightly less than half (47.6%) of NC adults under age 65 had been tested for the HIV virus that causes AIDS.
- Females (49.9%) were somewhat more likely than males (44.8%) to report having been tested for the HIV virus.
- The testing rate among African Americans (62.0%) was substantially higher than that among whites (43.1%) and other minorities (40.3%).
- Across all demographic groups, the highest testing rate (70.0%) was found among 25 to 34 year olds; the lowest rate (27.1%) was found among 55 to 64 year olds.
- There was no significant difference in rates with respect to education or household income.
- Persons with disabilities reported being tested at a noticeably higher rate (54.3%) than those without disabilities (46.1%).

Would not encourage sexually active teenager to use condom

- About 12 percent of adults would *not* encourage their sexually active teens to use condoms.
- Males (13.1%) were slightly more likely than females (11.9%) to not encourage condom use among their sexually active teens.
- Whites (13.3%) were slightly more likely than African Americans to not encourage condom use.
- Older adults (45+ yrs.) were more likely than younger adults to not encourage condom use among sexually active teens.
- Among all demographic groups, college graduates (14.9%) and married persons (14.9%) were most likely to not encourage condom use among teens.

Figure 9a. Medium or High Chance of Getting HIV



**Figure 9b. Ever Tested for HIV
(Age 65 or Less), 1999**

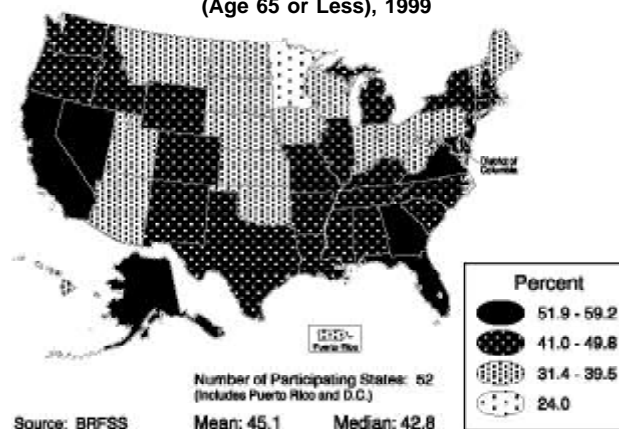


Table 9. HIV/ AIDS Risk and Awareness of NC Adults (Age <65 only), 1999

| Demographic Groups | Medium or High Chance of Getting HIV | | | | Ever Tested for HIV | | | | Would not Encourage Sexually Active Teenager to Use Condom | | | |
|--------------------|---|-----|-----|----------|---------------------|-----|------|-----------|--|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 1858 | 124 | 5.9 | 4.9- 7.2 | 1245 | 587 | 47.6 | 44.4-50.9 | 1841 | 224 | 12.5 | 10.8-14.4 |
| SEX | | | | | | | | | | | | |
| Male | 773 | 56 | 5.9 | 4.4- 7.8 | 468 | 200 | 44.8 | 39.7-50.0 | 772 | 101 | 13.1 | 10.7-16.0 |
| Female | 1085 | 68 | 5.9 | 4.6- 7.7 | 777 | 387 | 49.9 | 45.8-54.1 | 1069 | 123 | 11.9 | 9.6-14.6 |
| RACE | | | | | | | | | | | | |
| White | 1394 | 88 | 5.8 | 4.6- 7.2 | 874 | 378 | 43.1 | 39.4-47.0 | 1375 | 175 | 13.3 | 11.2-15.6 |
| African American | 405 | 29 | 6.0 | 3.9- 9.1 | 321 | 186 | 62.0 | 55.4-68.1 | 405 | 38 | 8.9 | 6.2-12.6 |
| AGE | | | | | | | | | | | | |
| 18-24 | 184 | 12 | 5.0 | 2.5- 9.4 | 100 | 53 | 52.6 | 41.2-63.7 | 185 | 15 | 9.9 | 5.3-17.6 |
| 25-34 | 420 | 32 | 6.8 | 4.7- 9.8 | 270 | 183 | 70.0 | 63.3-76.0 | 419 | 33 | 7.5 | 5.1-10.8 |
| 35-44 | 488 | 38 | 7.5 | 5.4-10.3 | 334 | 172 | 49.2 | 43.4-55.0 | 487 | 60 | 13.7 | 10.6-17.5 |
| 45-54 | 451 | 29 | 5.6 | 3.8- 8.3 | 311 | 116 | 36.4 | 30.4-42.8 | 448 | 65 | 15.9 | 12.2-20.3 |
| 55-64 | 299 | 13 | 3.6 | 2.0- 6.4 | 217 | 61 | 27.1 | 21.3-33.8 | 288 | 46 | 15.9 | 11.8-20.9 |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 234 | 13 | 4.0 | 2.2- 7.5 | 196 | 85 | 42.5 | 34.6-50.8 | 235 | 22 | 9.0 | 5.8-13.7 |
| H.S. or G.E.D. | 631 | 46 | 6.6 | 4.8- 9.1 | 462 | 206 | 44.8 | 39.6-50.2 | 626 | 77 | 12.2 | 9.5-15.6 |
| Some Post-H.S. | 466 | 31 | 5.1 | 3.5- 7.5 | 277 | 137 | 51.0 | 44.0-57.9 | 460 | 52 | 12.3 | 9.1-16.3 |
| College Graduate | 524 | 34 | 6.7 | 4.6- 9.5 | 308 | 159 | 53.5 | 47.1-59.9 | 517 | 72 | 14.9 | 11.4-19.2 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 157 | 9 | 5.4 | 2.6-11.0 | 131 | 63 | 50.8 | 40.0-61.5 | 155 | 16 | 10.2 | 5.9-16.9 |
| \$15,000- 24,999 | 300 | 22 | 5.6 | 3.5- 8.7 | 215 | 112 | 52.5 | 43.9-61.0 | 304 | 33 | 14.3 | 9.3-21.4 |
| \$25,000- 34,999 | 341 | 19 | 4.5 | 2.7- 7.3 | 226 | 113 | 50.7 | 43.1-58.2 | 338 | 33 | 8.6 | 6.0-12.3 |
| \$35,000- 49,999 | 323 | 20 | 5.2 | 3.3- 8.3 | 204 | 92 | 45.2 | 37.7-52.9 | 321 | 41 | 14.3 | 10.5-19.3 |
| \$50,000+ | 497 | 36 | 6.8 | 4.8- 9.7 | 299 | 134 | 44.3 | 38.1-50.6 | 493 | 67 | 13.4 | 10.3-17.1 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 352 | 20 | 4.9 | 3.0- 7.9 | 252 | 126 | 54.3 | 47.1-61.4 | 346 | 40 | 12.5 | 8.9-17.2 |
| No | 1453 | 98 | 6.1 | 4.9- 7.5 | 951 | 439 | 46.1 | 42.4-49.9 | 1441 | 178 | 12.5 | 10.6-14.7 |

Smoking

Current smokers (everyday or some days)

- In 1999, 25.1 percent of NC adults (18+ yrs.) reported that they smoked cigarettes.
- Smoking rates were somewhat higher among males (27.6%) than females (22.9%).
- The rates were slightly higher among whites (25.2%) than African Americans (24.6%) or other minorities (24.7%).
- Across age groups, the highest rates were observed among 35 to 44 year olds (32.6%), followed by 25-34. year olds (32.0%) and 18 to 24 year olds (31.3%); the smoking rates are significantly lower among older age groups.
- The rate among those with less than a high school education (34.1%) was almost 2 ½ times the rate among college graduates (13.7%).
- The highest rate of smoking (34.4%) was reported among those from very low income households (<\$15,000).
- Smoking rates were about the same for the disability population (24.7%) and the no-disability population (25.5%).

Former smokers (smoked at least 100 cigarettes in lifetime and do not currently smoke)

- Overall, about 23 percent of adults who have ever smoked do not currently smoke.
- A significantly higher percentage of males (29.1%) were reportedly former smokers than females (17.8%).
- By age, the highest former smoking rates were observed among those 55 to 64 (37.6%) and 65 and older (36.1%).
- The former-smoker rate among the disability population (30.4%) was significantly higher than that among adults not reporting a disability (21.4%).

Did not attempt to quit smoking in the past year (Daily smokers only)

- About 46 percent of daily smokers reported that they had *not* attempted to quit smoking for one or more days in the past 12 months.
- Females (47.3%) had a slightly higher rate of no-quit attempts than males (45.1%).
- The no-quit attempt rate for whites (48.1%) was about 10 percentage points higher than the rate for African Americans (37.6%).
- More than half of all daily smokers age 45 and older did not attempt to quit smoking.
- With respect to income, the highest no-quit rate (51.5%) was observed among those in the top income group.
- Persons with disabilities were more likely not to attempt to quit smoking than persons with no disabilities.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Reduce tobacco use (cigarette smoking) by adults to **12%** (NC, 1999 = 25.1%).

Figure 10a. Current Cigarette Smoker

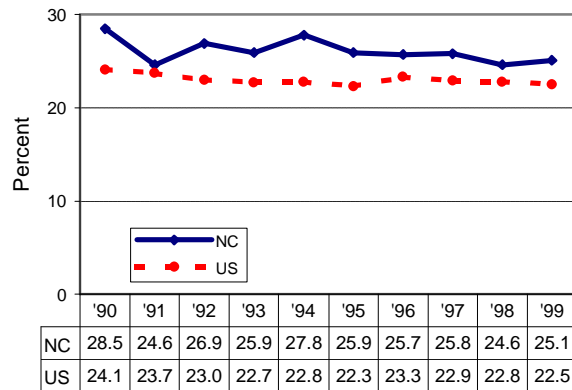


Figure 10b. Current Cigarette Smoker, 1999

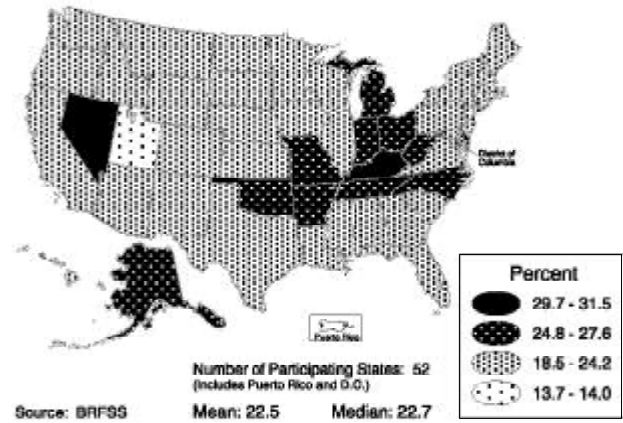


Table 10. Tobacco Use of NC Adults, 1999

| Demographic Groups | Current Smoker | | | | Former Smoker | | | | Have not Attempted to Quit Smoking | | | |
|--------------------|----------------|-----|------|-----------|---------------|------|-----------|--|------------------------------------|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | N | % | 95% C.I. | | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2434 | 578 | 25.1 | 23.1-27.3 | 558 | 23.2 | 21.3-25.3 | | 486 | 231 | 46.2 | 40.9-51.5 |
| SEX | | | | | | | | | | | | |
| Male | 961 | 263 | 27.6 | 24.4-31.0 | 283 | 29.1 | 25.9-32.6 | | 218 | 101 | 45.1 | 37.7-52.7 |
| Female | 1473 | 315 | 22.9 | 20.3-25.7 | 275 | 17.8 | 15.7-20.1 | | 268 | 130 | 47.3 | 39.9-54.8 |
| RACE | | | | | | | | | | | | |
| White | 1858 | 442 | 25.2 | 23.0-27.7 | 462 | 25.0 | 22.7-27.4 | | 379 | 193 | 48.1 | 42.4-53.9 |
| African American | 508 | 116 | 24.6 | 19.9-30.0 | 89 | 17.3 | 13.8-21.5 | | 95 | 31 | 37.6 | 24.5-52.7 |
| AGE | | | | | | | | | | | | |
| 18-24 | 186 | 55 | 31.3 | 24.1-39.4 | 15 | 9.2 | 5.4-15.5 | | * | * | * | * |
| 25-34 | 431 | 119 | 32.0 | 26.5-38.1 | 53 | 11.9 | 8.7-16.1 | | 98 | 46 | 45.1 | 32.6-58.2 |
| 35-44 | 500 | 168 | 32.6 | 28.3-37.2 | 96 | 21.2 | 17.3-25.7 | | 143 | 66 | 45.4 | 36.7-54.3 |
| 45-54 | 462 | 135 | 28.1 | 23.7-33.0 | 107 | 25.8 | 21.2-31.0 | | 120 | 59 | 53.5 | 43.2-63.4 |
| 55-64 | 310 | 47 | 14.5 | 10.8-19.2 | 110 | 37.6 | 31.9-43.6 | | * | * | * | * |
| 65+ | 527 | 51 | 9.0 | 6.7-12.0 | 173 | 36.1 | 31.4-41.2 | | * | * | * | * |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 420 | 134 | 34.1 | 28.9-39.8 | 95 | 26.2 | 21.3-31.9 | | 114 | 59 | 50.4 | 39.4-61.4 |
| H.S. or G.E.D. | 814 | 227 | 30.0 | 26.4-34.0 | 167 | 20.9 | 17.8-24.5 | | 194 | 91 | 42.7 | 34.9-50.9 |
| Some Post-H.S. | 549 | 128 | 23.9 | 19.8-28.7 | 123 | 21.8 | 18.2-25.9 | | 111 | 53 | 51.3 | 39.6-62.9 |
| College Graduate | 640 | 89 | 13.7 | 10.9-17.1 | 173 | 26.4 | 22.6-30.5 | | 67 | 28 | 40.2 | 28.0-53.8 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 262 | 83 | 34.4 | 27.2-42.5 | 52 | 20.2 | 14.6-27.2 | | 67 | 30 | 49.5 | 33.9-65.2 |
| \$15,000- 24,999 | 430 | 115 | 27.6 | 22.4-33.5 | 76 | 17.7 | 13.5-22.8 | | 100 | 47 | 42.9 | 30.9-55.8 |
| \$25,000- 34,999 | 410 | 103 | 26.8 | 22.0-32.1 | 94 | 23.3 | 18.8-28.5 | | 82 | 34 | 39.2 | 28.0-51.8 |
| \$35,000- 49,999 | 371 | 93 | 26.1 | 21.4-31.4 | 89 | 24.0 | 19.6-29.1 | | 83 | 39 | 45.4 | 34.1-57.2 |
| \$50,000+ | 543 | 102 | 19.5 | 15.9-23.6 | 148 | 26.1 | 22.1-30.5 | | 84 | 44 | 51.5 | 39.4-63.4 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 551 | 131 | 24.7 | 20.4-29.4 | 152 | 30.4 | 25.7-35.5 | | 103 | 50 | 50.3 | 38.2-62.3 |
| No | 1774 | 425 | 25.5 | 23.1-28.0 | 382 | 21.4 | 19.2-23.6 | | 365 | 171 | 44.8 | 38.9-50.9 |

*Indicates that total respondents in the category are less than 50 and estimates are not presented here.

Tobacco Use Prevention

Smoking inside home in past 30 days

- About one-third of adults (32.6%) reported that someone had smoked (cigarettes, pipes, or cigars) inside their home in the past 30 days.
- Recent in-home smoking was reported more frequently by African Americans (37.4%) than whites (31.6%).
- By age, the highest rate was found among 18 to 24 year olds (39.4%); the lowest rate was found among 65+ year olds (20.6%).
- The rate of in-home smoking declined sharply from those with less than a high school education (46.0%) to those with a college education (17.8%).

Smoking at work in indoor public areas

- 26.3 percent of NC adults who worked reported that smoking at work was allowed in some or all public/common areas, such as lobbies or lunch rooms.
- Smoking at work in indoor public areas was reported significantly more frequently by males (31.9%) than by females (21.3%).
- 39.7 percent of those with less than a high school education reported that smoking was permitted in common work areas, compared to 9.6 percent of college graduates.
- Smoking in public indoor work areas was cited more frequently by African Americans (35.9%) than by whites (23.8%).

Smoking at work in work areas

- 17.8 percent of NC adults who worked reported that smoking was allowed in some or all work areas.
- Males (20.6%) were more likely than females (15.4%) to report that smoking was permitted in work areas.
- The reported rate of work-area-smoking was higher among those with less than a high school degree (30.5%) than those with a college degree (7.1%).

Acceptance of smoking in restaurants, schools, day care centers, and indoor work areas

- 48.7 percent of adults believe that smoking should not be allowed in some or all areas of restaurants.
- 91.1 percent of adults believe that smoking should not be allowed in some or all areas of schools.
- 94.6 percent of adults believe that smoking should not be allowed in some or all areas of day care centers.
- 72.6 percent of adults believe that smoking should not be allowed in some or all indoor work areas.

Figure 11a. NC Adults' Acceptance of Smoking in Public Places, 1999

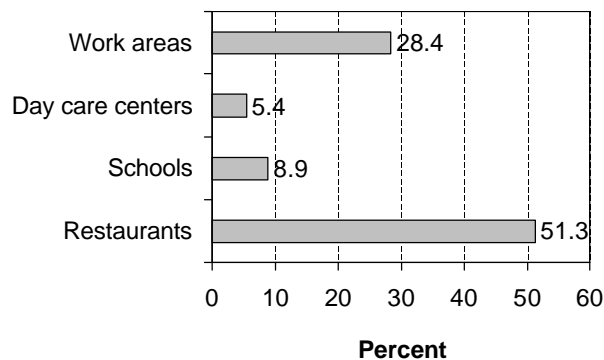


Figure 11b. Allowed Smoking Inside the Home, 1999

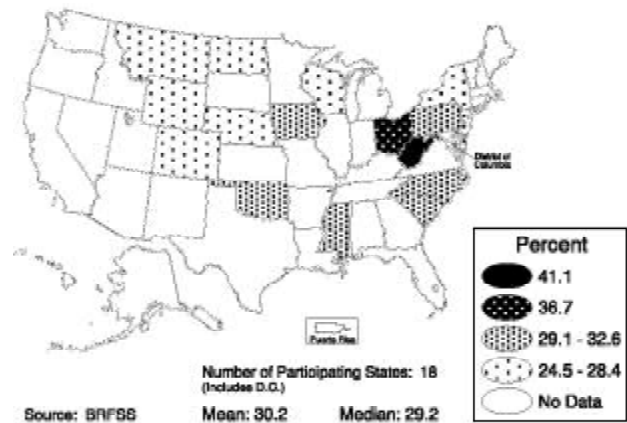


Table 11. Exposure to Tobacco Smoke and Perception of Tobacco Use of NC Adults, 1999

| Demographic Groups | Someone Smoked in Respondent's Home | | | | Smoking Allowed in Public Areas or No Official Policy | | | | Smoking Allowed in Work Areas or No Official Policy | | | |
|--------------------|-------------------------------------|-----|------|-----------|---|-----|------|-----------|---|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2366 | 748 | 32.6 | 30.3-34.9 | 1139 | 290 | 26.3 | 23.4-29.5 | 1141 | 200 | 17.8 | 15.3-20.6 |
| SEX | | | | | | | | | | | | |
| Male | 942 | 314 | 32.6 | 29.2-36.1 | 443 | 136 | 31.9 | 27.1-37.2 | 445 | 91 | 20.6 | 16.6-25.2 |
| Female | 1424 | 434 | 32.6 | 29.6-35.6 | 696 | 154 | 21.3 | 17.9-25.2 | 696 | 109 | 15.4 | 12.4-18.9 |
| RACE | | | | | | | | | | | | |
| White | 1819 | 565 | 31.6 | 29.2-34.2 | 843 | 199 | 23.8 | 20.6-27.4 | 845 | 153 | 17.3 | 14.6-20.4 |
| African American | 481 | 164 | 37.4 | 32.0-43.1 | 258 | 81 | 35.9 | 28.8-43.6 | 258 | 41 | 19.7 | 13.8-27.2 |
| AGE | | | | | | | | | | | | |
| 18-24 | 184 | 73 | 39.4 | 31.5-47.9 | 95 | 29 | 30.3 | 20.5-42.2 | 95 | 22 | 20.7 | 12.9-31.5 |
| 25-34 | 415 | 131 | 33.2 | 27.7-39.2 | 287 | 73 | 27.9 | 22.2-34.5 | 288 | 52 | 18.5 | 13.7-24.5 |
| 35-44 | 486 | 178 | 35.3 | 30.8-40.1 | 316 | 73 | 23.0 | 18.3-28.6 | 317 | 51 | 16.0 | 12.0-21.0 |
| 45-54 | 453 | 167 | 38.2 | 33.1-43.7 | 278 | 71 | 26.0 | 20.4-32.4 | 278 | 45 | 17.3 | 12.6-23.2 |
| 55-64 | 298 | 87 | 29.6 | 24.3-35.5 | 125 | 35 | 28.7 | 20.7-38.2 | 125 | 23 | 19.2 | 12.5-28.2 |
| 65+ | 514 | 111 | 20.6 | 17.1-24.7 | 32 | 8 | 19.3 | 8.2-39.0 | 32 | 7 | 17.7 | 7.2-37.2 |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 401 | 174 | 46.0 | 40.3-51.9 | 93 | 40 | 39.7 | 28.6-52.1 | 93 | 28 | 30.5 | 20.6-42.5 |
| H.S. or G.E.D. | 788 | 287 | 38.4 | 34.5-42.5 | 380 | 135 | 36.7 | 31.1-42.6 | 380 | 91 | 23.9 | 19.2-29.4 |
| Some Post-H.S. | 543 | 163 | 30.4 | 25.8-35.4 | 291 | 76 | 27.1 | 21.3-33.7 | 292 | 52 | 17.8 | 13.1-23.7 |
| College Graduate | 630 | 124 | 17.8 | 14.8-21.3 | 372 | 38 | 9.6 | 6.8-13.4 | 373 | 28 | 7.1 | 4.7-10.5 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 249 | 104 | 41.1 | 33.5-49.1 | 50 | 15 | 21.8 | 11.9-36.6 | 50 | 13 | 18.7 | 9.7-33.1 |
| \$15,000- 24,999 | 414 | 150 | 38.9 | 33.0-45.2 | 183 | 63 | 32.9 | 24.6-42.4 | 183 | 46 | 24.3 | 17.1-33.2 |
| \$25,000- 34,999 | 408 | 144 | 38.7 | 33.3-44.4 | 230 | 61 | 27.3 | 21.1-34.5 | 231 | 37 | 15.5 | 11.0-21.4 |
| \$35,000- 49,999 | 366 | 120 | 31.4 | 26.4-36.8 | 215 | 52 | 29.8 | 22.9-37.6 | 215 | 36 | 22.9 | 16.5-30.8 |
| \$50,000+ | 537 | 122 | 22.8 | 19.0-27.1 | 339 | 65 | 18.7 | 14.6-23.8 | 340 | 42 | 11.2 | 8.1-15.3 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 543 | 183 | 34.3 | 29.5-39.3 | 136 | 44 | 31.0 | 22.4-41.3 | 136 | 37 | 27.0 | 18.8-37.1 |
| No | 1776 | 555 | 32.4 | 29.8-35.0 | 982 | 238 | 25.2 | 22.1-28.6 | 984 | 161 | 16.8 | 14.2-19.8 |

Breast Cancer Screening

Did not have mammogram and clinical breast exam done within the last two years (age 50+)

- 23.2 percent of adult females, ages 50 and older, did not have a mammogram and clinical breast exam in the last 2 years.
- The following groups of women ages 50+ were more likely to not have had a mammogram and clinical breast exam within the last two years: African American, ages 65+, less than a high school education, less than \$15,000 income, and women with disabilities.
- Rates of not having a mammogram and a clinical breast exam in the last 2 years declined more than 50 percent between 1990 and 1999.

Never had a mammogram and clinical breast exam (age 40+)

- 15.7 percent of NC adult females, ages 40 and older, reported never having a mammogram and a clinical breast exam.
- About 20 percent of African American women (40+ yrs.) reported never having a mammogram and clinical breast exam, compared to about 14 percent of white women.
- Compared to all other demographic groups, the highest rates were observed among those with less than a high school education (24.1%) and those with household incomes below \$15,000.
- Rates of never having a mammogram and a clinical breast exam have significantly declined from 37.6 percent in 1990 to 15.7 percent in 1999.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Increase the percentage of women ages 50+ who have had a mammogram in the last 2 years to **85.2%** (NC, 1999 = 76.8%).

Figure 12a. Did Not Have Mammogram and Breast Exam Done in the Last 2 Years (Age 50+)

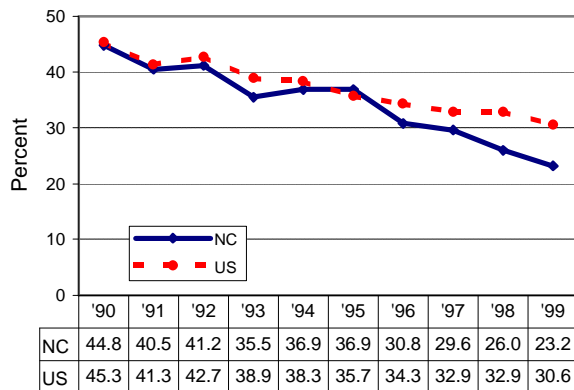


Figure 12b. No Mammogram and Breast Exam Done in the Last 2 Years (Age 50+), 1999

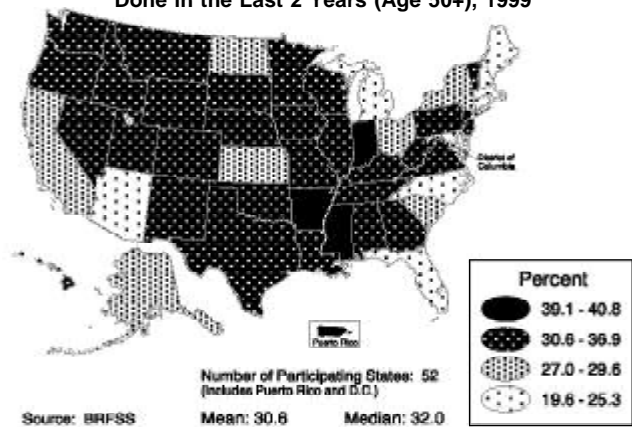


Table 12. Breast Cancer Screening of NC Women, 1999

| Demographic Groups | Did not Have Mammogram and Breast Exam within the Last 2 Years (50+) | | | | Never Had a Mammogram and a Breast Exam (Age 40+) | | | |
|--------------------------|--|-----|------|-----------|---|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | | | | | | | | |
| Females | 644 | 149 | 23.2 | 19.7-27.0 | 943 | 138 | 15.7 | 13.2-18.5 |
| RACE | | | | | | | | |
| White | 526 | 115 | 21.8 | 18.1-26.0 | 745 | 98 | 14.1 | 11.5-17.2 |
| African American | 107 | 32 | 30.5 | 21.7-40.9 | 178 | 34 | 20.2 | 14.4-27.6 |
| AGE | | | | | | | | |
| 40-49 | — | — | — | — | 287 | 51 | 19.3 | 14.7-24.9 |
| 50-64 | 299 | 50 | 17.3 | 12.9-22.7 | 301 | 28 | 10.3 | 6.9-14.9 |
| 65+ | 345 | 99 | 29.1 | 24.1-34.6 | 355 | 59 | 17.5 | 13.5-22.5 |
| EDUCATION | | | | | | | | |
| Less Than H.S. | 166 | 59 | 39.2 | 31.2-47.9 | 205 | 43 | 24.1 | 18.0-31.6 |
| H.S. or G.E.D. | 239 | 54 | 20.5 | 15.6-26.5 | 347 | 55 | 16.1 | 12.3-20.8 |
| Some Post-H.S. | 123 | 17 | 15.2 | 9.4-23.6 | 187 | 20 | 11.4 | 7.3-17.5 |
| College Graduate | 115 | 19 | 13.6 | 8.3-21.3 | 203 | 20 | 9.9 | 6.2-15.5 |
| HOUSEHOLD INCOME | | | | | | | | |
| Less than \$15,000 | 107 | 44 | 43.3 | 33.4-53.7 | 141 | 34 | 25.1 | 18.0-33.7 |
| \$15,000- 24,999 | 128 | 26 | 20.4 | 13.8-29.0 | 172 | 22 | 15.0 | 9.9-22.2 |
| \$25,000- 34,999 | 95 | 20 | 19.3 | 12.1-29.3 | 145 | 19 | 13.2 | 8.0-20.8 |
| \$35,000- 49,999 | 64 | 9 | 16.5 | 8.4-29.8 | 110 | 11 | 9.7 | 5.2-17.2 |
| \$50,000+ | 80 | 5 | 5.5 | 2.0-14.4 | 161 | 16 | 12.1 | 7.4-19.3 |
| DISABILITY STATUS | | | | | | | | |
| Yes | 222 | 70 | 31.2 | 24.9-38.3 | 282 | 48 | 17.6 | 13.1-23.2 |
| No | 394 | 72 | 18.6 | 14.7-23.2 | 623 | 86 | 15.2 | 12.3-18.7 |

Cervical Cancer Screening

Women with no Pap smear test in the past three years (females with uterine cervix)

- In 1999, about 9 percent of NC adult females reported not having a Pap smear test within the past three years.
- Older women (age 55+) were more likely than younger women to not have had a Pap smear test within three years.
- Education and household income were inversely related to having no Pap smear test within the last three years; the rates of no Pap smear decreased with increasing education and with increasing household income.
- The rate of no Pap test among women with less than a high school education (22.3%) was approximately 3 times as high the rates among women with more education.
- Women with disabilities were less likely to have had a Pap smear test within the last three years than women with no disabilities.
- African American women had a lower percentage with no Pap test within the last 3 years than white women.

Never had a Pap smear test (females with uterine cervix)

- 2.8 percent of NC adult females reported never having a Pap smear test.
- Young women (ages 18 to 24) and older women (ages 55+) appeared to be most likely to never have a Pap smear test.
- The likelihood of never having a test was also higher among women with less than a high school degree or with household incomes of less than \$15,000.
- Women with disabilities were more likely to have never had a Pap smear test.
- Between 1990 and 1999, the rates of never having a test remained steady at lower than 5 percent.

Did not have the last Pap smear test as part of a routine checkup (females with uterine cervix).

- 2.3 percent of adult females reported that their last Pap smear test was not part of a routine checkup.
- Women with disabilities were more likely to receive a Pap test that was not part of a routine checkup.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Increase the percentage of women age 18 and over who have had a Pap test in the last 3 years to **94.7%** (NC, 1999 = 90.9%)

Figure 13a. No Pap Smear Test in the Last 3 Years (Females with Uterine Cervix)

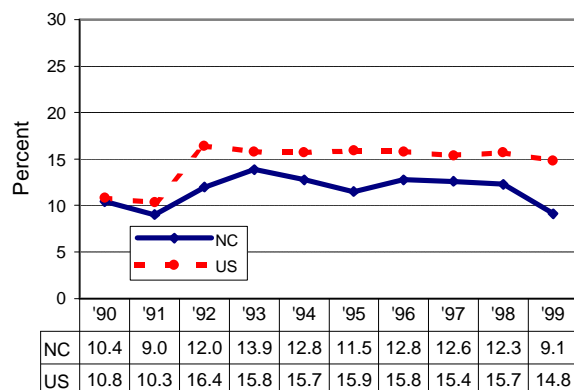


Figure 13b. No Pap Smear Test in the Last 3 Years (Females with Uterine Cervix), 1999

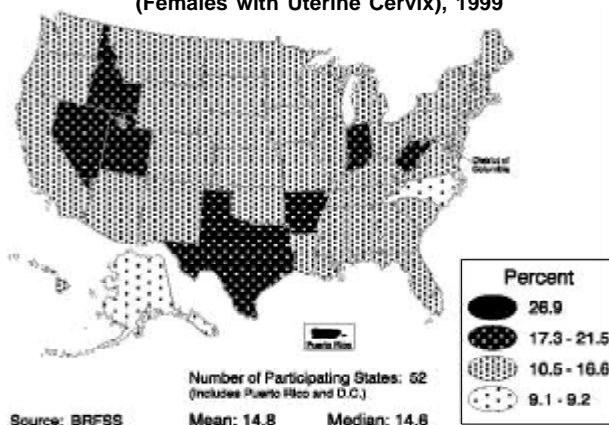


Table 13. Cervical Cancer Screening of NC Women (females with uterine cervix), 1999

| Demographic Groups | Did not Have a Pap Smear Test within the Last 3 Years | | | | Never Had a Pap Smear Test | | | | Did not Have the Last Pap Smear Test as Part of a Routine Check-up | | | |
|--------------------------|---|-----|------|-----------|----------------------------|----|-----|----------|--|----|-----|----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | | | | | | | | | | | | |
| Females | 1043 | 106 | 9.1 | 7.4-11.2 | 1045 | 33 | 2.8 | 1.9-4.1 | 1012 | 22 | 2.3 | 1.5- 3.5 |
| RACE | | | | | | | | | | | | |
| White | 779 | 82 | 9.6 | 7.5-12.0 | 780 | 19 | 2.4 | 1.4-3.9 | 761 | 20 | 2.6 | 1.7- 4.2 |
| African American | 233 | 20 | 7.2 | 4.5-11.5 | 234 | 11 | 3.6 | 1.8-6.7 | 223 | 2 | 1.1 | 0.3- 4.5 |
| AGE | | | | | | | | | | | | |
| 18-24 | 97 | 6 | 4.3 | 1.7-10.3 | 97 | 6 | 4.3 | 1.7-10.3 | 91 | 0 | 0.0 | — |
| 25-34 | 249 | 9 | 3.8 | 1.9- 7.5 | 250 | 3 | 0.9 | 0.3-3.4 | 247 | 10 | 4.0 | 2.1- 7.6 |
| 35-44 | 235 | 17 | 6.5 | 4.0-10.6 | 235 | 3 | 0.8 | 0.3-2.4 | 232 | 6 | 3.0 | 1.3- 6.6 |
| 45-54 | 178 | 14 | 8.4 | 4.7-14.7 | 178 | 1 | 0.5 | 0.1-3.7 | 177 | 2 | 0.7 | 0.2- 2.6 |
| 55-64 | 99 | 16 | 17.6 | 10.7-27.6 | 99 | 4 | 5.5 | 1.9-14.7 | 95 | 2 | 3.0 | 0.8-11.4 |
| 65+ | 178 | 40 | 21.4 | 15.6-28.6 | 179 | 14 | 6.6 | 3.8-11.2 | 165 | 2 | 1.7 | 0.4- 6.7 |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 147 | 32 | 22.3 | 15.5-31.0 | 148 | 11 | 8.7 | 4.6-16.0 | 137 | 5 | 4.1 | 1.7- 9.9 |
| H.S. or G.E.D. | 362 | 37 | 8.4 | 6.0-11.7 | 363 | 11 | 2.0 | 1.0-3.6 | 352 | 10 | 2.8 | 1.4- 5.3 |
| Some Post-H.S. | 246 | 16 | 6.6 | 3.8-11.3 | 246 | 6 | 2.5 | 1.0-6.3 | 240 | 5 | 2.0 | 0.8- 5.0 |
| College Graduate | 288 | 21 | 5.7 | 3.5- 9.0 | 288 | 5 | 1.1 | 0.4-2.7 | 283 | 2 | 0.8 | 0.2- 3.8 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 117 | 20 | 14.4 | 8.9-22.6 | 117 | 8 | 5.7 | 2.7-11.5 | 109 | 6 | 5.7 | 2.4-13.0 |
| \$15,000- 24,999 | 194 | 24 | 12.2 | 7.9-18.4 | 194 | 7 | 3.0 | 1.3-6.6 | 187 | 5 | 2.5 | 1.0- 6.1 |
| \$25,000- 34,999 | 185 | 19 | 9.5 | 5.8-15.3 | 185 | 4 | 2.8 | 0.9-8.2 | 181 | 4 | 2.6 | 1.0- 6.7 |
| \$35,000- 49,999 | 144 | 6 | 4.2 | 1.8- 9.4 | 144 | 0 | 0.0 | — | 144 | 1 | 0.3 | 0.0- 2.3 |
| \$50,000+ | 219 | 9 | 3.2 | 1.6- 6.5 | 220 | 2 | 1.0 | 0.2-4.4 | 218 | 2 | 1.2 | 0.3- 4.9 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 211 | 36 | 14.3 | 10.0-20.1 | 212 | 13 | 4.7 | 2.6-8.2 | 199 | 11 | 6.5 | 3.5-11.5 |
| No | 796 | 68 | 8.1 | 6.2-10.4 | 797 | 18 | 2.2 | 1.3-3.7 | 779 | 11 | 1.4 | 0.7- 2.7 |

Colorectal Cancer Screening

Never had a sigmoidoscopy or colonoscopy (age 50+)

- 60.9 percent of NC adults ages 50 years or older never had a sigmoidoscopy or colonoscopy test.
- Males and females had similar rates of never having sigmoidoscopy or colonoscopy test.
- African Americans, adults ages 50-64 years, and those with less than a college education were more likely to have never had a sigmoidoscopy or colonoscopy test than other groups.

Did not have a sigmoidoscopy or colonoscopy within the past 5 years (age 50+)

- 69.0 percent of NC adults aged 50 years or older did not have a sigmoidoscopy or colonoscopy test within the last 5 years.
- Those with a college education or with household incomes above \$49,999 were less likely to have never had a sigmoidoscopy or colonoscopy test than those with less education or less household income.
- Rates of never having a sigmoidoscopy or colonoscopy test were similar across gender, race, and disability status groups.

Never had a blood stool test (age 50+)

- 47.7 percent of NC adults aged 50 years or older have never had a blood stool test.
- Males (51%) were somewhat more likely than females (44.9%) to never have had a blood stool test.
- NC adults ages 50-64 years had a higher rate of never having a blood stool test than the adults ages 65 years or older.
- College graduates were less likely to have never had a blood stool test than other education categories
- Adults with no disabilities had a higher rate of never having had a blood stool test than the adults with disabilities.

Did not have a blood stool test within the last year (age 50+)

- 70.1 percent of NC adults ages 50 years or older did not have a blood stool test within the last year (data not shown in table).

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Increase the percentage of adults who have ever had a colorectal cancer screening (sigmoidoscopy / colonoscopy) exam to **49.8%** (NC, 1999 = **39.1%**).

Figure 14a. Percentage of NC Adults Who Never Had a Sigmoidoscopy/Colonoscopy by Education, 1999

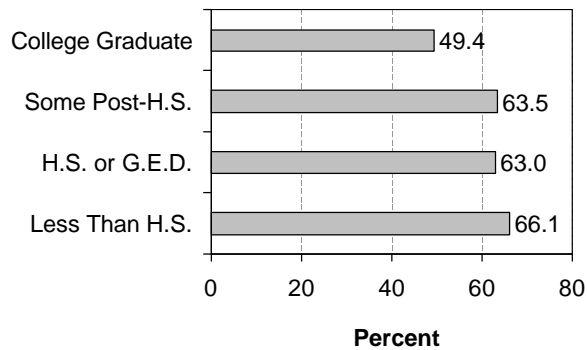


Figure 14b. Never Had a Blood Stool Test (Age 50+), 1999

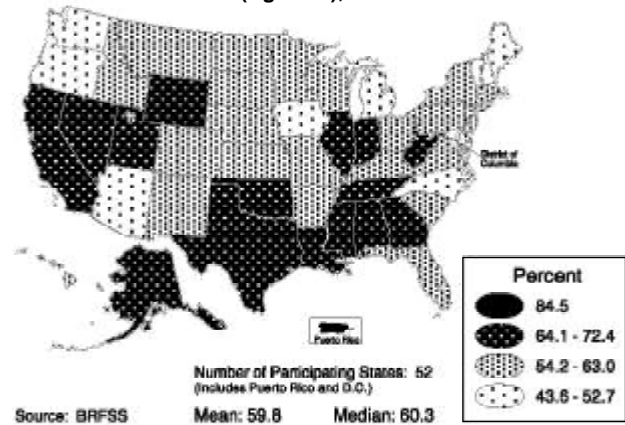


Table 14. Colorectal Cancer Screening of NC Adults (Age 50+), 1999

| Demographic Groups | Never Had a Sigmoidoscopy/Colonoscopy | | | | Did not Have a Sigmoidoscopy/Colonoscopy within Last 5 Years | | | | Never Had a Blood Stool Test | | | |
|--------------------|---------------------------------------|-----|------|-----------|--|-----|------|-----------|------------------------------|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 1042 | 637 | 60.9 | 57.5-64.2 | 1035 | 726 | 69.0 | 65.6-72.2 | 1042 | 490 | 47.7 | 44.3-51.1 |
| SEX | | | | | | | | | | | | |
| Male | 390 | 235 | 60.6 | 54.9-66.0 | 386 | 262 | 67.4 | 61.8-72.6 | 391 | 206 | 51.0 | 45.4-56.7 |
| Female | 652 | 402 | 61.1 | 56.9-65.2 | 649 | 464 | 70.3 | 66.2-74.0 | 651 | 284 | 44.9 | 40.8-49.2 |
| RACE | | | | | | | | | | | | |
| White | 840 | 501 | 60.2 | 56.4-63.9 | 835 | 581 | 68.8 | 65.1-72.4 | 840 | 380 | 46.4 | 42.6-50.2 |
| African Am. | 182 | 124 | 64.6 | 56.4-72.1 | 180 | 132 | 70.6 | 62.5-77.6 | 182 | 100 | 54.7 | 46.5-62.6 |
| AGE | | | | | | | | | | | | |
| 50-64 | 524 | 365 | 69.2 | 64.6-73.4 | 523 | 393 | 73.9 | 69.4-77.8 | 525 | 281 | 53.8 | 49.0-58.5 |
| 65+ | 518 | 272 | 51.1 | 46.2-56.0 | 512 | 333 | 63.2 | 58.1-68.0 | 517 | 209 | 40.5 | 35.8-45.3 |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 274 | 182 | 66.1 | 58.8-72.7 | 269 | 204 | 75.3 | 67.9-81.5 | 275 | 155 | 56.9 | 49.7-63.8 |
| H.S. or G.E.D. | 333 | 211 | 63.0 | 57.1-68.5 | 331 | 239 | 71.5 | 65.8-76.6 | 334 | 157 | 48.0 | 42.1-54.1 |
| Some Post-H.S. | 195 | 122 | 63.5 | 55.9-70.5 | 195 | 138 | 69.5 | 62.0-76.1 | 197 | 79 | 41.9 | 34.6-49.7 |
| College Graduate | 238 | 121 | 49.4 | 42.4-56.5 | 238 | 143 | 57.1 | 49.9-64.0 | 234 | 97 | 40.7 | 33.9-47.8 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less Than \$15,000 | 153 | 100 | 66.0 | 57.4-73.7 | 150 | 114 | 76.4 | 68.2-83.1 | 155 | 83 | 56.8 | 48.2-65.0 |
| \$15,000- 24,999 | 192 | 115 | 58.1 | 49.2-66.4 | 192 | 133 | 67.6 | 58.3-75.6 | 192 | 84 | 41.7 | 33.9-50.1 |
| \$25,000- 34,999 | 135 | 79 | 60.5 | 50.8-69.5 | 134 | 95 | 70.3 | 60.9-78.2 | 135 | 64 | 50.1 | 40.2-59.9 |
| \$35,000- 49,999 | 127 | 80 | 64.1 | 54.7-72.4 | 126 | 90 | 72.6 | 63.5-80.1 | 126 | 66 | 54.7 | 45.2-63.8 |
| \$50,000+ | 184 | 113 | 59.9 | 51.8-67.5 | 184 | 127 | 66.1 | 58.0-73.4 | 184 | 86 | 45.1 | 37.3-53.2 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 345 | 199 | 56.4 | 50.0-62.6 | 341 | 237 | 66.9 | 60.3-73.0 | 345 | 150 | 41.1 | 35.3-47.2 |
| No | 655 | 409 | 62.5 | 58.4-66.5 | 653 | 458 | 69.6 | 65.6-73.3 | 655 | 316 | 50.1 | 45.9-54.4 |

Prostate Cancer Screening (1998)

Did not have a digital rectal exam within the last 5 years (age 50+)

- 31.8 percent of NC adult males ages 50 years or older did not have a digital rectal exam (DRE) within the last five years.
- African American and white males had the same rate of not having a DRE.
- Those ages 65 years or more were less likely to have not had a DRE in the last 5 years than men ages 50-64 years.
- Those with a high school education or less had higher rates of not having a DRE in the last 5 years than those with more education.
- Those with household incomes under \$25,000 were more likely to report not having a DRE in the last 5 years than those from higher income households.
- Those with disabilities had a higher rate of not having a DRE in the last 5 years than those without disabilities.

Did not have a Prostate Specific Antigen (PSA) test within the last 5 years (age 50+)

- 42.8 percent of NC adult males ages 50 and older reported not having a PSA test within the last five years.
- Those ages 65 and older were less likely to have not had a PSA test within the last 5 years than persons ages 50-64.
- Those with lower education had higher rates of not having a PSA test in the last 5 years than those with more education.
- Those with household incomes under \$35,000 were more likely to report not having a PSA test within the past 5 years than those from higher income households.

Figure 15a. Percentage of NC Men Age 50+ Who Did Not Have a Digital Rectal Exam Within the Last 5 Years by Age, 1998

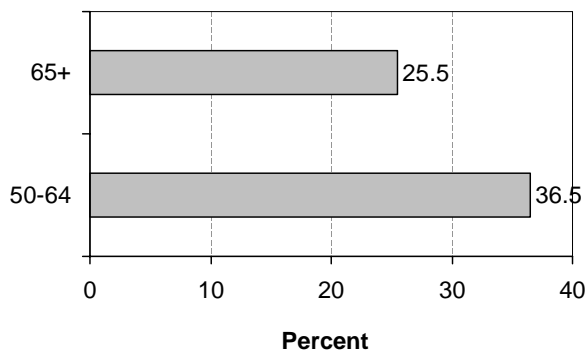


Figure 15b. Percentage of NC Men Age 50+ Who Did Not Have a Digital Rectal Exam Within the Last 5 Years by Education, 1998

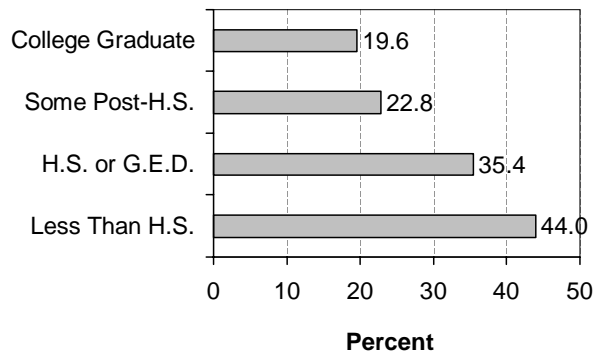


Figure 15c. Percentage of NC Men Age 50+ Who Did Not Have a PSA Within the Last 5 Years by Age, 1998

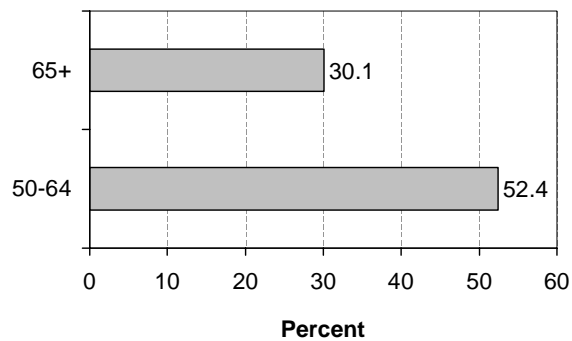


Figure 15d. Percentage of NC Men Age 50+ Who Did Not Have a PSA Test Within the Last 5 Years by Education, 1998

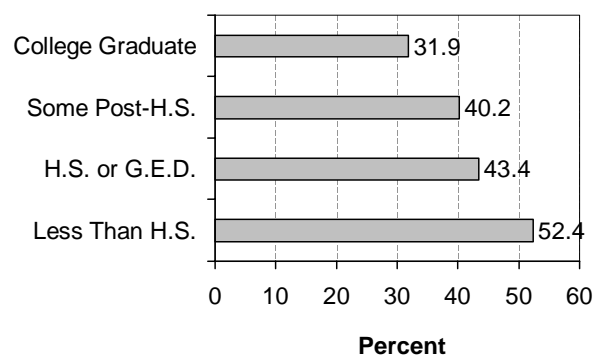


Table 15. Prostate Cancer Screening of NC Men (Age 50+), 1998

| Demographic Groups | Did not Have a Digital Rectal Exam within the Last 5 Years | | | | Did not Have a PSA Test within the Last 5 Years | | | |
|--------------------------|--|-----|------|-----------|---|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | | | | | | | | |
| Males | 363 | 107 | 31.8 | 25.3-39.1 | 324 | 140 | 42.8 | 35.8-50.1 |
| RACE | | | | | | | | |
| White | 302 | 83 | 31.2 | 24.1-39.3 | 275 | 115 | 41.5 | 34.0-49.5 |
| African American | 56 | 22 | 31.2 | 19.5-46.0 | * | * | * | * |
| AGE | | | | | | | | |
| 50-64 | 188 | 63 | 36.5 | 27.3-46.9 | 167 | 86 | 52.4 | 42.2-62.4 |
| 65+ | 175 | 44 | 25.5 | 17.7-35.3 | 157 | 54 | 30.1 | 22.3-39.1 |
| EDUCATION | | | | | | | | |
| Less Than H.S. | 109 | 40 | 44.0 | 31.5-57.3 | 92 | 49 | 52.4 | 38.7-65.8 |
| H.S. or G.E.D. | 97 | 29 | 35.4 | 21.9-51.9 | 85 | 38 | 43.4 | 28.8-59.3 |
| Some Post-H.S. | 80 | 21 | 22.8 | 14.5-33.9 | 75 | 29 | 40.2 | 28.1-53.5 |
| College Graduate | 75 | 16 | 19.6 | 11.1-32.2 | 71 | 23 | 31.9 | 20.5-45.9 |
| HOUSEHOLD INCOME | | | | | | | | |
| Less than \$15,000 | 63 | 29 | 52.4 | 33.9-70.3 | 50 | 27 | 59.0 | 38.4-76.8 |
| \$15,000- 24,999 | 75 | 27 | 41.7 | 28.3-56.4 | 66 | 36 | 58.2 | 43.8-71.4 |
| \$25,000- 34,999 | 54 | 11 | 16.3 | 8.0-30.4 | 53 | 24 | 45.9 | 30.6-62.0 |
| \$35,000- 49,999 | * | * | * | * | * | * | * | * |
| \$50,000+ | 62 | 16 | 22.5 | 13.1-35.9 | 58 | 21 | 32.9 | 20.3-48.5 |
| DISABILITY STATUS | | | | | | | | |
| Yes | 134 | 41 | 38.8 | 27.1-52.0 | 116 | 46 | 45.8 | 33.1-59.1 |
| No | 214 | 58 | 26.5 | 19.6-34.7 | 194 | 84 | 39.7 | 31.7-48.2 |

*Indicates that total respondents in the category are less than 50 and estimates are not presented here.

Physical Activity (1998)

No leisure-time physical activity in the past month

- In 1998, 27.7 percent of NC adults reported that they had not engaged in any leisure-time physical activity during the past month.
- A significantly higher percentage of females (31.1%) than males (24.0%) reported no leisure-time physical activity.
- The rate of no leisure-time physical activity was highest among African-Americans (33.4%) than among whites (25.2%).
- The rate of no leisure-time physical activity increased with each successive older age group.
- The rate decreased with increasing education level, from 52.2 percent among those with less than a high school education to 15.6 percent among those with a college education.
- The rate of no leisure-time physical activity decreased with increasing annual household income level, from 45.8 percent among those in the <\$15,000 group to 15.6 percent in the \$50,000+ group.
- The rate decreased with each higher level of education.
- The rate of no physical activity was significantly higher among persons with a disability (37.9%) than among those with no reported disability (23.6%).
- The overall reporting of no leisure-time physical activity in NC has varied over time, most recently decreasing from a high of 42.8 percent in 1994 to a low of 27.7 percent in 1998.

Inadequate physical activity

- In 1998, 81.5 percent of NC adults reported that they had not engaged in the recommended amount of leisure-time physical activity (30 minutes per day on 5 or more days of the week, regardless of intensity) during the past month.
- The prevalence of inadequate leisure-time physical activity was higher among African Americans (87.1%) than among whites (79.7%).
- The rates of inadequate leisure-time physical activity increased consistently with less education and lower reported household income.
- Across all demographic groups, the rate was highest among widowed persons (90.7%) (data not shown in table).
- The overall prevalence of inadequate leisure-time physical activity in NC increased from 83.1 percent in 1992 to 87.3 percent in 1994, but has since decreased to 81.5% in 1998.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Reduce the percentage of adults (18 years and older) who engaged in no leisure-time physical activity in the past month to **29%** (NC, 1998 = **27.7%**).
- Increase the percentage of adults (18 years and older) who engage in physical activity for at least 30 minutes on 5 or more days of the week to **20%** (NC, 1998 = **18.5%**).

Figure 16a. No Leisure-Time Physical Activity in the Past Month

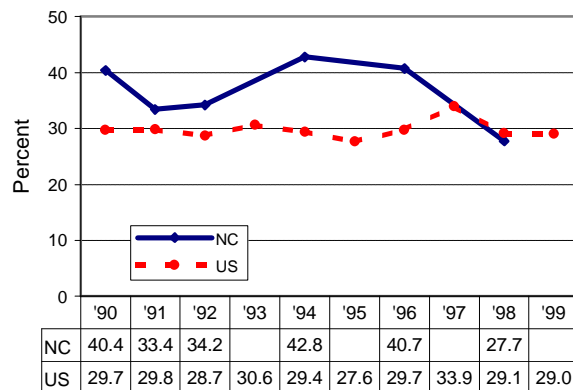


Figure 16b. No Leisure-Time Physical Activity, 1998

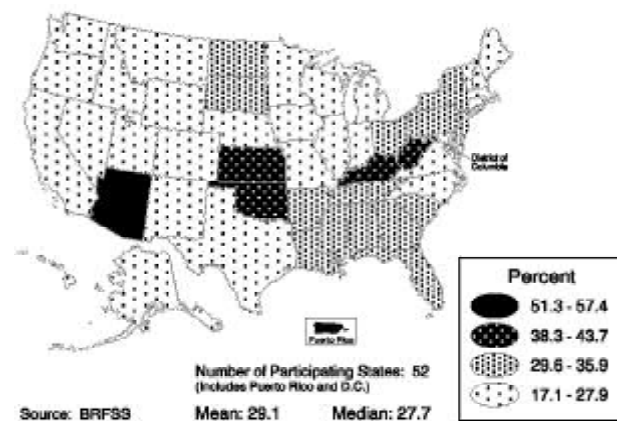


Table 16. Physical Activity Status of NC Adults, 1998

| Demographic Groups | No Leisure-Time Physical Activity in the Past Month | | | | Inadequate Physical Activity | | | |
|--------------------------|---|-----|------|-----------|------------------------------|------|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2400 | 715 | 27.7 | 25.5-30.1 | 2400 | 1948 | 81.5 | 79.5-83.4 |
| SEX | | | | | | | | |
| Male | 920 | 244 | 24.0 | 20.5-28.0 | 920 | 712 | 79.7 | 76.3-82.7 |
| Female | 1480 | 471 | 31.1 | 28.3-34.0 | 1480 | 1236 | 83.1 | 80.7-85.3 |
| RACE | | | | | | | | |
| White | 1847 | 506 | 25.2 | 23.0-27.6 | 1847 | 1468 | 79.7 | 77.3-81.9 |
| African American | 488 | 184 | 33.4 | 28.3-39.0 | 488 | 426 | 87.1 | 82.8-90.4 |
| AGE | | | | | | | | |
| 18-24 | 189 | 46 | 18.4 | 13.1-25.2 | 189 | 151 | 82.1 | 74.8-87.5 |
| 25-34 | 456 | 101 | 22.4 | 16.4-29.8 | 456 | 361 | 79.5 | 74.3-83.9 |
| 35-44 | 522 | 138 | 27.8 | 23.2-32.8 | 522 | 436 | 84.8 | 81.0-88.0 |
| 45-54 | 393 | 112 | 27.6 | 22.7-33.1 | 393 | 310 | 77.6 | 71.6-82.7 |
| 55-64 | 314 | 112 | 31.6 | 25.9-37.9 | 314 | 248 | 80.0 | 74.5-84.6 |
| 65+ | 516 | 205 | 38.9 | 34.1-44.0 | 516 | 434 | 83.9 | 79.8-87.3 |
| EDUCATION | | | | | | | | |
| Less Than H.S. | 428 | 230 | 52.2 | 45.2-59.0 | 428 | 386 | 89.8 | 85.9-92.8 |
| H.S. or G.E.D. | 767 | 229 | 27.8 | 24.1-31.7 | 767 | 640 | 84.5 | 80.8-87.6 |
| Some Post-H.S. | 618 | 157 | 23.1 | 19.4-27.3 | 618 | 485 | 78.1 | 73.6-82.0 |
| College Graduate | 572 | 95 | 15.6 | 12.5-19.4 | 572 | 422 | 75.0 | 70.6-78.9 |
| HOUSEHOLD INCOME | | | | | | | | |
| Less than \$15,000 | 318 | 156 | 45.8 | 38.4-53.3 | 318 | 280 | 86.3 | 77.9-91.8 |
| \$15,000- 24,999 | 458 | 169 | 34.4 | 29.3-39.8 | 458 | 372 | 82.1 | 77.5-85.9 |
| \$25,000- 34,999 | 413 | 106 | 24.6 | 20.0-29.7 | 413 | 327 | 80.0 | 75.2-84.2 |
| \$35,000- 49,999 | 370 | 74 | 16.6 | 12.9-21.2 | 370 | 297 | 79.3 | 73.6-84.0 |
| \$50,000+ | 437 | 66 | 15.6 | 11.9-20.3 | 437 | 325 | 76.2 | 71.2-80.5 |
| DISABILITY STATUS | | | | | | | | |
| Yes | 571 | 229 | 37.9 | 33.0-43.1 | 571 | 497 | 86.1 | 81.4-89.8 |
| No | 1623 | 407 | 23.6 | 21.0-26.5 | 1623 | 1268 | 79.2 | 76.7-81.5 |

Nutrition (1998)

Fruit and vegetable consumption

- In 1998, more than three quarters (78.6%) of NC adults reported that they did not eat the daily recommended number of fruits and vegetables (5 or more fruits and vegetables daily).
- 83.6 percent of males reported not eating five or more fruits and vegetables daily, substantially higher than females (74.0%).
- The rate of not eating five or more fruits and vegetables daily was lowest among those in the 65+ age group (72.7%), but not statistically different from other age group rates.
- The rate of not eating five or more fruits and vegetables daily was slightly higher among African Americans (83.0%) than among whites (77.2%).
- The overall prevalence of not eating five or more fruits and vegetables daily in NC remained fairly stable from 1994 to 1996, but decreased from 83.5 percent in 1996 to 78.6 percent in 1998.

Healthy Carolinians 2010 Draft Objective

- Increase the percentage of adults eating five or more servings of fruits and vegetables each day to **25.1%** (NC, 1998 = 21.4%).

Figure 17a. Percentage of NC Adults Who Did Not Consume 5 or More Servings of Fruits and Vegetables a Day by Age, 1998

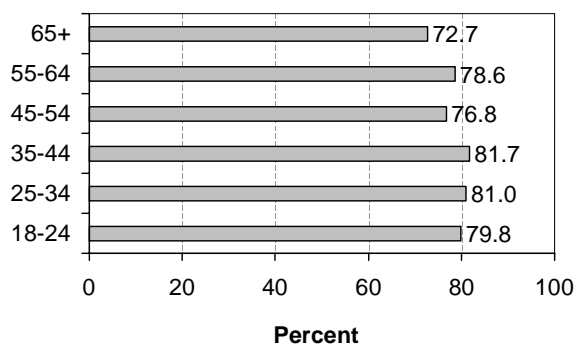


Figure 17b. Percentage of NC Adults Who Did Not Consume 5 or More Servings of Fruits and Vegetables a Day by Income, 1998

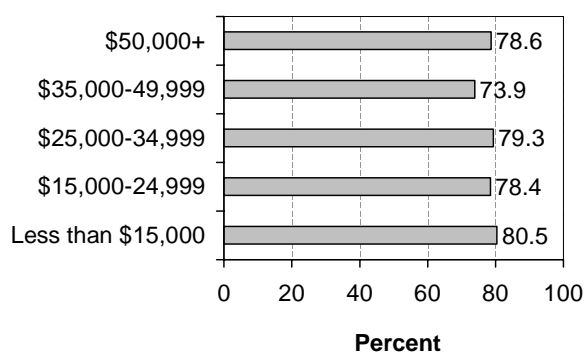


Figure 17c. Less Than 5 Servings of Fruits and Vegetables Daily

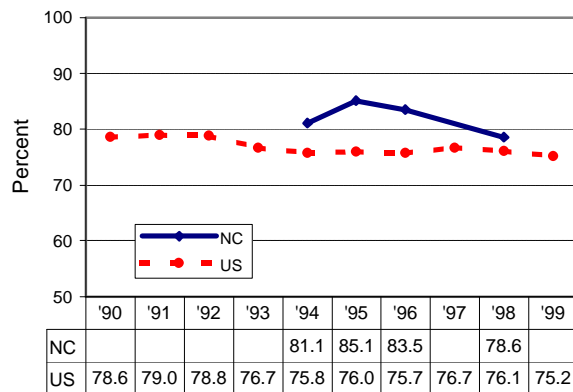


Figure 17d. Inadequate Fruit and Vegetable Consumption, 1998

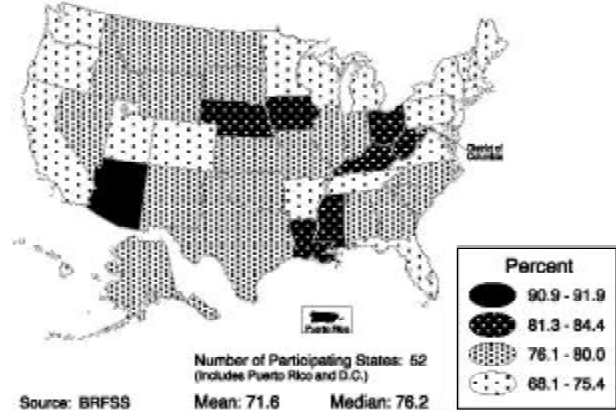


Table 17. Daily Fruit and Vegetable Consumption by NC Adults, 1998

| Demographic Groups | Did not Consume 5 or More Servings of Fruits and Vegetables a Day | | | |
|--------------------|---|------|------|-----------|
| | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2400 | 1861 | 78.6 | 76.5-80.5 |
| SEX | | | | |
| Male | 921 | 758 | 83.6 | 80.5-86.2 |
| Female | 1479 | 1103 | 74.0 | 71.2-76.7 |
| RACE | | | | |
| White | 1846 | 1409 | 77.2 | 74.9-79.4 |
| African American | 489 | 401 | 83.0 | 78.1-87.0 |
| AGE | | | | |
| 18-24 | 189 | 146 | 79.8 | 72.5-85.5 |
| 25-34 | 456 | 364 | 81.0 | 76.0-85.1 |
| 35-44 | 522 | 417 | 81.7 | 77.4-85.3 |
| 45-54 | 394 | 299 | 76.8 | 71.6-81.4 |
| 55-64 | 313 | 243 | 78.6 | 72.7-83.6 |
| 65+ | 516 | 385 | 72.7 | 67.9-77.0 |
| EDUCATION | | | | |
| Less Than H.S. | 429 | 349 | 80.4 | 75.1-84.7 |
| H.S. or G.E.D. | 768 | 611 | 79.9 | 76.1-83.2 |
| Some Post-H.S. | 618 | 471 | 77.1 | 72.8-80.8 |
| College Graduate | 572 | 418 | 77.0 | 72.9-80.7 |
| HOUSEHOLD INCOME | | | | |
| Less than \$15,000 | 319 | 260 | 80.5 | 74.1-85.7 |
| \$15,000- 24,999 | 458 | 354 | 78.4 | 73.5-82.7 |
| \$25,000- 34,999 | 413 | 324 | 79.3 | 74.3-83.6 |
| \$35,000- 49,999 | 371 | 277 | 73.9 | 68.0-79.0 |
| \$50,000+ | 437 | 321 | 78.6 | 74.1-82.6 |
| DISABILITY STATUS | | | | |
| Yes | 571 | 444 | 78.1 | 73.4-82.1 |
| No | 1624 | 1258 | 78.8 | 76.3-81.1 |

Weight Control

Overweight (body mass index (BMI) ≥ 25 kg/m² and < 30 kg/m²)

- 36.4 percent of NC adults were overweight (based on reported height and weight) in 1999, according to national guidelines.
- Males were more likely to be overweight (47.1%) than females (26.0%).
- The lowest rate (21.5%) was found among youngest age group (18-24 yrs.), significantly lower than all other age groups.
- The rate increased slightly with increasing education levels, from 33.9 percent among those with less than a high school education to 39.1 percent among those with a college education.
- Likewise, the overweight rate increased somewhat with increasing level of annual household income.
- The overall prevalence of overweight in NC has remained fairly stable since 1990, increasing only slightly from 33.5 percent in 1990 to 36.4 percent in 1999.

Obesity (body mass index (BMI) ≥ 30 kg/m²)

- About 2 out of 10 NC adults (21.5%) were obese in 1999 (based on reported height and weight).
- The obesity rates for males and females were about the same.
- The rate for African Americans (30.2%) was about 1½ times that of whites (19.6%).
- The obesity rates increased from 9.3 percent in the 18-24 year age group to 26.6 percent in the 45-54 year age group, and then decreased to 16.6 percent in the 65+ year age group.
- Rates decreased with increasing education level, from 26.0 percent among those with less than a high school education to 15.1 percent among those with a college education.
- Rates also decreased with increasing annual household income level, from 30.4 percent among those in the $< \$15,000$ group to 17.1 percent among those in the $\$50,000+$ group.
- The obesity rate was significantly higher among those with a disability (31.8%) than among those with no disability (18.7%).
- The overall prevalence of obesity in NC has increased substantially between 1990 and 1999, from 12.9 percent to 21.5 percent.

Underweight (body mass index (BMI) < 18.5 kg/m²)

- 2.2 percent of adults were underweight according to national guidelines.
- 3.2 percent of females were underweight, compared to 1.1 percent of males.
- The overall prevalence of underweight in NC has remained fairly stable since 1990, decreasing slightly from 3.8 percent in 1991 to 2.2 percent in 1999.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Reduce the percentage of adults who are obese to **16.8%** (NC, 1999 = **21.5%**).
- Increase the proportion of adults who are at a healthy weight (Developmental Objective, baseline data to be collected in 2001).

**Figure 18a. Prevalence of Being Overweight or Obese
(Body Mass Index ≥ 25 kg/m²)**

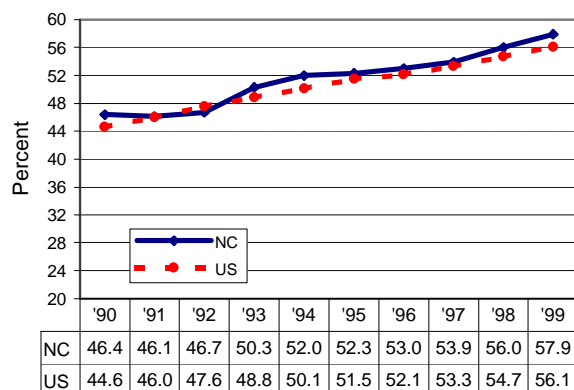


Figure 18b. Overweight or Obese Based on Body Mass Index ≥ 25 kg/m², 1999

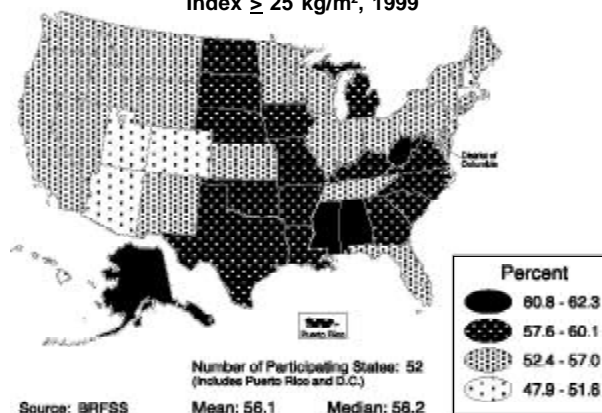


Table 18. Body Mass Index of NC Adults, 1999

| Demographic Groups | Overweight | | | | Obese | | | | Underweight | | | |
|--------------------|-------------|-----|------|-----------|-------------|-----|------|-----------|-------------|----|-----|----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2331 | 845 | 36.4 | 34.1-38.7 | 2331 | 513 | 21.5 | 19.7-23.5 | 2331 | 51 | 2.2 | 1.5-3.1 |
| SEX | | | | | | | | | | | | |
| Male | 951 | 457 | 47.1 | 43.5-50.8 | 951 | 198 | 21.0 | 18.2-24.1 | 951 | 8 | 1.1 | 0.4-3.0 |
| Female | 1380 | 388 | 26.0 | 23.5-28.7 | 1380 | 315 | 22.0 | 19.7-24.6 | 1380 | 43 | 3.2 | 2.3-4.5 |
| RACE | | | | | | | | | | | | |
| White | 1790 | 645 | 36.2 | 33.6-38.8 | 1790 | 347 | 19.6 | 17.6-21.8 | 1790 | 45 | 2.5 | 1.7-3.7 |
| African American | 474 | 179 | 37.4 | 32.2-42.8 | 474 | 156 | 30.2 | 25.7-35.1 | 62 | 5 | 0.8 | 0.3-2.2 |
| AGE | | | | | | | | | | | | |
| 18-24 | 182 | 37 | 21.5 | 15.0-29.9 | 182 | 19 | 9.3 | 5.6-15.2 | 182 | 7 | 3.7 | 1.7-7.8 |
| 25-34 | 409 | 139 | 36.0 | 30.5-41.8 | 409 | 91 | 23.4 | 18.9-28.6 | 409 | 5 | 2.1 | 0.6-7.6 |
| 35-44 | 482 | 192 | 41.3 | 36.5-46.3 | 482 | 119 | 25.5 | 21.4-30.0 | 482 | 9 | 1.5 | 0.7-3.0 |
| 45-54 | 437 | 155 | 37.4 | 32.3-42.9 | 437 | 116 | 26.6 | 22.1-31.6 | 437 | 5 | 0.9 | 0.4-2.4 |
| 55-64 | 296 | 123 | 40.7 | 34.9-46.8 | 296 | 75 | 25.1 | 20.1-30.8 | 296 | 3 | 1.2 | 0.4-3.8 |
| 65+ | 512 | 195 | 38.6 | 34.0-43.4 | 512 | 91 | 16.6 | 13.4-20.3 | 512 | 22 | 3.8 | 2.4-5.8 |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 394 | 131 | 33.9 | 28.8-39.4 | 394 | 107 | 26.0 | 21.4-31.2 | 394 | 9 | 2.1 | 1.0-4.4 |
| H.S. or G.E.D. | 782 | 276 | 35.4 | 31.6-39.5 | 782 | 200 | 24.3 | 21.1-27.8 | 782 | 20 | 2.8 | 1.5-5.2 |
| Some Post-H.S. | 537 | 197 | 36.7 | 31.9-41.7 | 537 | 120 | 20.7 | 17.1-24.8 | 537 | 12 | 2.3 | 1.2-4.4 |
| College Graduate | 614 | 239 | 39.1 | 34.8-43.6 | 614 | 85 | 15.1 | 11.9-18.9 | 614 | 10 | 1.1 | 0.6-2.1 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 253 | 74 | 30.2 | 23.5-38.0 | 253 | 83 | 30.4 | 24.3-37.4 | 253 | 8 | 3.2 | 1.4-7.1 |
| \$15,000- 24,999 | 409 | 134 | 31.8 | 26.5-37.6 | 409 | 113 | 25.2 | 20.6-30.4 | 409 | 14 | 2.4 | 1.4-4.2 |
| \$25,000- 34,999 | 400 | 155 | 37.4 | 32.3-42.9 | 400 | 96 | 24.4 | 20.0-29.5 | 400 | 4 | 1.0 | 0.3-3.1 |
| \$35,000- 49,999 | 355 | 129 | 38.5 | 33.0-44.4 | 355 | 74 | 20.3 | 16.2-25.2 | 355 | 5 | 1.3 | 0.5-3.3 |
| \$50,000+ | 533 | 220 | 42.3 | 37.4-47.3 | 533 | 87 | 17.1 | 13.6-21.3 | 533 | 5 | 1.0 | 0.4-2.7 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 526 | 165 | 31.6 | 27.0-36.4 | 526 | 172 | 31.8 | 27.4-36.6 | 526 | 18 | 2.9 | 1.7-4.7 |
| No | 1710 | 651 | 38.2 | 35.5-40.9 | 1710 | 322 | 18.7 | 16.7-20.9 | 1710 | 30 | 1.7 | 1.1-2.5 |

Blood Pressure

High blood pressure

- In 1999, 24.0 percent of NC adults reported that a health care professional had told them that they had high blood pressure.
- The rate of diagnosed hypertension:
 - was higher among African Americans (30.5%) than among whites (22.8%);
 - increased with increasing age group, from 5.3 percent in the 18-24 year age group to 45.1 percent in the 65+ year age group;
 - decreased with increasing education level from 36.4 percent among those with less than a high school education to 18.0 percent among those with a college education;
 - decreased with increasing annual household income, from 34.0 percent among those in the <\$15,000 group to 17.8 percent in the highest income group.
- The rate of hypertension was almost 2½ times as high in the disability group (44.2%) as in the no-disability group (18.3%).
- The overall reported prevalence of diagnosed high blood pressure in NC decreased from 22.5 percent in 1990 to 17.0 percent in 1993, but has since increased to 24.0 percent in 1999

Blood pressure not checked within past 2 years

- In 1999, 3.8 percent of adults reported that they had not had their blood pressure checked within the past two years.
- Females were less likely to have not had their blood pressure checked than males.
- The overall percentage of North Carolinians who have not had their blood pressure checked within the past two years increased from 3.2 percent in 1991 to 6.1 percent in 1997, and then declined to 3.8 percent in 1999.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Increase the percentage of adults who have had their blood pressure measured within the last year to **95% (NC, 1999 = 90.7%)**

Figure 19a. High Blood Pressure

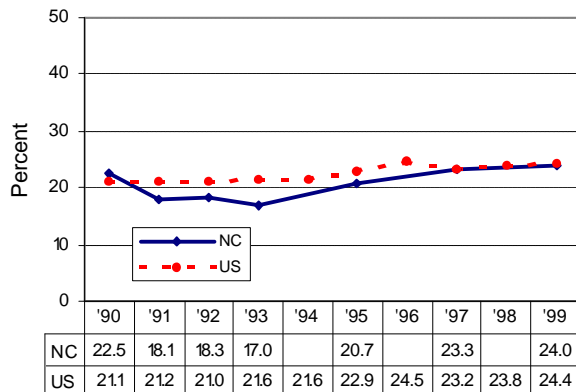


Figure 19b. High Blood Pressure, 1999

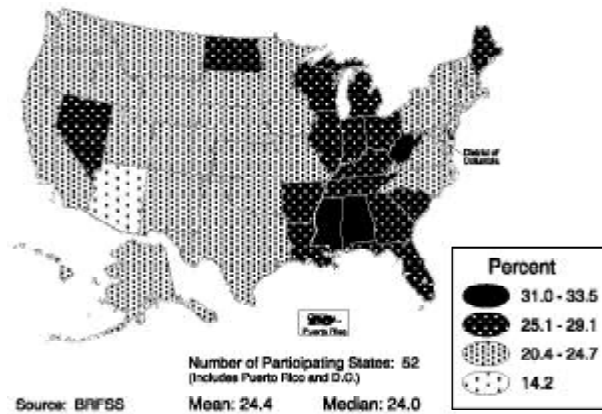


Table 19. Hypertension Awareness of NC Adults, 1999

| Demographic Groups | Had Blood Pressure Checked and Told High by Health Professional | | | | Did Not Have Blood Pressure Checked within the Past 2 Years | | | |
|--------------------|---|-----|------|-----------|---|----|-----|----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2434 | 647 | 24.0 | 22.2-26.0 | 2424 | 83 | 3.8 | 3.0- 4.8 |
| SEX | | | | | | | | |
| Male | 958 | 232 | 23.0 | 20.1-26.2 | 953 | 42 | 5.0 | 3.6- 6.9 |
| Female | 1476 | 415 | 25.0 | 22.6-27.5 | 1471 | 41 | 2.8 | 2.0- 3.9 |
| RACE | | | | | | | | |
| White | 1854 | 459 | 22.8 | 20.7-25.0 | 1846 | 69 | 4.1 | 3.1- 5.1 |
| African American | 510 | 179 | 30.5 | 26.1-35.3 | 507 | 11 | 3.2 | 1.5- 6.3 |
| AGE | | | | | | | | |
| 18-24 | 188 | 12 | 5.3 | 2.9- 9.6 | 185 | 6 | 4.4 | 1.9- 9.9 |
| 25-34 | 430 | 47 | 10.8 | 7.9-14.6 | 427 | 14 | 4.2 | 2.4- 7.3 |
| 35-44 | 498 | 85 | 15.7 | 12.6-19.5 | 498 | 26 | 5.5 | 3.7- 8.1 |
| 45-54 | 463 | 139 | 31.7 | 26.8-37.1 | 461 | 16 | 2.9 | 1.7- 5.0 |
| 55-64 | 308 | 120 | 38.5 | 32.9-44.5 | 310 | 11 | 3.7 | 2.0- 7.0 |
| 65+ | 527 | 237 | 45.1 | 40.3-50.1 | 524 | 10 | 2.0 | 1.1- 3.8 |
| EDUCATION | | | | | | | | |
| Less Than H.S. | 421 | 159 | 36.4 | 31.1-42.1 | 416 | 14 | 4.0 | 2.3- 6.9 |
| H.S. or G.E.D. | 813 | 229 | 24.5 | 21.4-28.0 | 809 | 38 | 5.0 | 3.4- 7.1 |
| Some Post-H.S. | 551 | 131 | 21.1 | 17.6-25.1 | 548 | 11 | 2.9 | 1.5- 5.4 |
| College Graduate | 637 | 124 | 18.0 | 14.9-21.6 | 639 | 20 | 3.1 | 1.9- 4.8 |
| HOUSEHOLD INCOME | | | | | | | | |
| Less than \$15,000 | 262 | 105 | 34.0 | 27.7-41.0 | 259 | 9 | 2.8 | 1.4- 5.6 |
| \$15,000- 24,999 | 426 | 135 | 30.3 | 25.2-36.1 | 427 | 21 | 4.9 | 3.1- 7.6 |
| \$25,000- 34,999 | 412 | 93 | 22.4 | 18.0-27.5 | 409 | 13 | 3.3 | 1.8- 6.0 |
| \$35,000- 49,999 | 369 | 82 | 19.0 | 15.2-23.6 | 369 | 12 | 4.3 | 2.3- 7.9 |
| \$50,000+ | 542 | 99 | 17.8 | 14.4-21.7 | 541 | 13 | 2.3 | 1.3- 4.1 |
| DISABILITY STATUS | | | | | | | | |
| Yes | 551 | 250 | 44.2 | 39.2-49.2 | 548 | 15 | 2.9 | 1.7- 4.9 |
| No | 1774 | 363 | 18.3 | 16.4-20.4 | 1766 | 65 | 4.0 | 3.1- 5.2 |

Cholesterol

High blood cholesterol

- In 1999, 31.2 percent of adults who had their blood cholesterol checked reported that a health care professional had told them that they had high blood cholesterol.
- The reported rate of high blood cholesterol increased with increasing age: 15.5 percent in the 18-24 year age group to 42.0 percent in the 65+ year age group.
- The rates decreased somewhat with increasing levels of education: 39.4 percent among those with less than a high school education, 26.2 percent among those with a post-high school education, and 29.6 percent among those with a college education.
- The rates decreased with increasing annual household income, from 40.2 percent among those in the <\$15,000 group to 28.7 percent in the \$50,000+ group.
- Diagnosed high blood cholesterol was very high among people with a disability (45.1%).
- The overall prevalence of diagnosed high blood cholesterol in NC remained fairly stable from 1990 to 1995, but has since increased from 23.9 percent in 1995 to 31.2 percent in 1999.

Cholesterol not checked within past 5 years

- In 1999, 25.7 percent of NC adults reported that they had not had their cholesterol checked within the past 5 years.
- 22.6 percent of whites had not had their cholesterol checked within the past 5 years, compared to 33.8 percent of African Americans.
- The rate of no-cholesterol-check decreased with increasing age, from 46.3 percent among 18 to 24 year olds to 10.5 percent among 65+ year olds.
- With respect to education, the rate was lowest among those with a college education (19.2%).
- The rate of no-cholesterol-check decreased with increasing annual household income, from 34.7 percent among those in the <\$15,000 group to 18.1 percent among those in the \$50,000+ group.
- Those with no health insurance (48.9%) were significantly more likely not to have their cholesterol checked than those with health insurance (23.0%) (data not shown in table).
- The overall percentage of North Carolinians who have not had their cholesterol checked within the past 5 years decreased between 1990 and 1999, from 35.2 percent to 25.7 percent.

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Increase the percentage of adults who have had their cholesterol checked within the preceding five years to **90.9%** (NC, 1999 = **74.3%**)

Figure 20a. High Blood Cholesterol

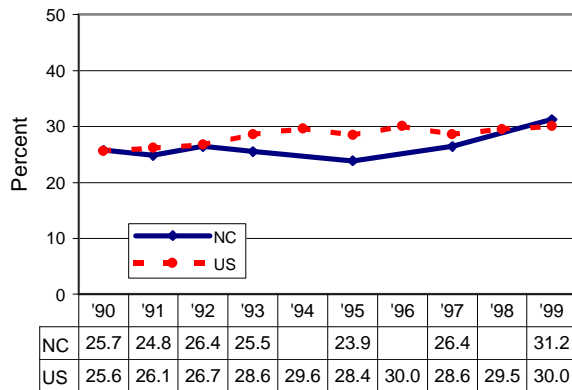


Figure 20b. High Blood Cholesterol, 1999

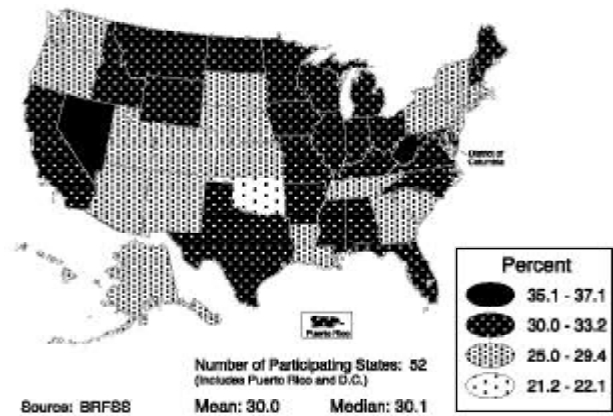


Table 20. Cholesterol Awareness of NC Adults, 1999

| Demographic Groups | Blood Cholesterol Checked and Told High by Health Professional | | | | Cholesterol not Checked within the Past 5 Years | | | |
|--------------------|--|-----|------|-----------|---|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 1869 | 604 | 31.2 | 28.8-33.7 | 2357 | 559 | 25.7 | 23.6-27.9 |
| SEX | | | | | | | | |
| Male | 703 | 223 | 31.7 | 27.7-35.9 | 934 | 260 | 28.3 | 25.1-31.7 |
| Female | 1166 | 381 | 30.8 | 27.9-33.8 | 1423 | 299 | 23.3 | 20.6-26.2 |
| RACE | | | | | | | | |
| White | 1470 | 483 | 32.0 | 29.2-34.8 | 1793 | 388 | 22.6 | 20.4-25.0 |
| African American | 359 | 108 | 28.1 | 23.2-33.6 | 494 | 140 | 33.8 | 28.6-39.5 |
| AGE | | | | | | | | |
| 18-24 | 92 | 13 | 15.5 | 8.8-25.9 | 168 | 81 | 46.3 | 37.6-55.3 |
| 25-34 | 265 | 41 | 16.0 | 11.1-22.4 | 418 | 166 | 40.6 | 35.0-46.5 |
| 35-44 | 375 | 97 | 26.6 | 21.8-31.9 | 491 | 137 | 28.3 | 24.1-32.8 |
| 45-54 | 394 | 137 | 37.1 | 31.5-43.0 | 454 | 76 | 16.4 | 13.0-20.6 |
| 55-64 | 265 | 110 | 40.6 | 34.4-47.1 | 302 | 42 | 13.0 | 9.5-17.5 |
| 65+ | 462 | 199 | 42.0 | 36.8-47.3 | 505 | 54 | 10.5 | 8.0-13.7 |
| EDUCATION | | | | | | | | |
| Less Than H.S. | 304 | 120 | 39.4 | 32.9-46.3 | 394 | 97 | 24.7 | 20.2-29.9 |
| H.S. or G.E.D. | 581 | 191 | 32.6 | 28.3-37.2 | 787 | 223 | 30.9 | 27.1-34.9 |
| Some Post-H.S. | 432 | 123 | 26.2 | 21.8-31.2 | 534 | 122 | 25.7 | 21.3-30.7 |
| College Graduate | 542 | 168 | 29.6 | 25.4-34.2 | 630 | 115 | 19.2 | 15.8-23.3 |
| HOUSEHOLD INCOME | | | | | | | | |
| Less than \$15,000 | 182 | 76 | 40.2 | 31.8-49.1 | 252 | 74 | 34.7 | 27.2-43.1 |
| \$15,000- 24,999 | 301 | 111 | 35.2 | 28.6-42.3 | 419 | 122 | 30.8 | 25.4-36.7 |
| \$25,000- 34,999 | 297 | 95 | 32.0 | 26.1-38.6 | 393 | 117 | 30.9 | 26.0-36.3 |
| \$35,000- 49,999 | 297 | 81 | 25.2 | 20.3-30.9 | 366 | 82 | 24.5 | 19.8-29.9 |
| \$50,000+ | 455 | 134 | 28.7 | 24.1-33.8 | 534 | 96 | 18.1 | 14.7-22.1 |
| DISABILITY STATUS | | | | | | | | |
| Yes | 442 | 195 | 45.1 | 39.6-50.8 | 525 | 99 | 21.7 | 17.5-26.6 |
| No | 1348 | 383 | 27.2 | 24.6-30.1 | 1726 | 432 | 26.4 | 24.0-29.0 |

Cardiovascular Disease

History of heart attack, angina, other coronary heart disease, or stroke

- In 1999, 8.9 percent of NC adults reported that their doctor had ever told them that they had had a heart attack, angina, other coronary heart disease, or stroke.
- The rate was significantly higher among males (11.4%) than females (6.7%).
- The rate increased sharply with age, from 0.5 percent in the 18-24 year age group to 28.8 percent in the 65+ year age group.
- The rate for those with less than a high school education (20.3%) was more than double that of all other education groups.
- The rate decreased by more than 10 percentage points from those with household incomes below \$15,000 (15.5%) to those with household incomes above \$49,999 (4.2%).
- The rate was about 5 times higher among people with a disability (24.2%) than among those with no disability (4.6%).

History of heart attack, angina, or other coronary heart disease (not including stroke)

- In 1999, 6.8 percent of adults reported that their doctor had ever told them that they had had a heart attack, angina, or other coronary heart disease.
- The prevalence of diagnosed heart attack, angina, or other coronary heart disease was again higher among men (9.1%) than women (4.7%).
- The rate was more than 3 times higher among those with less than less than a high school education compared to all other education groups.
- The rate decreased from 11.2 percent for those with household incomes below \$15,000 to 3.2 for those in the highest income category.
- The rate was significantly higher among people with a disability (18.3%) compared to those with no disability (3.5%).

History of stroke

- In 1999, 3.3 percent of adults reported that their doctor had ever told them that they had had a stroke.
- The prevalence of a diagnosed stroke increased with increasing age, from 0.0 percent in the 18-24 year age group to a high of 9.5 percent in the 65+ year age group.
- The rate was about twice as high in the lowest education group compared to other education levels.
- The rate was more than 7 times as high in the disability group (10.0%) compared to those with no disability (1.4%).

Figure 21a. Had a History of Heart Attack, MI, Angina, CHD or Stroke

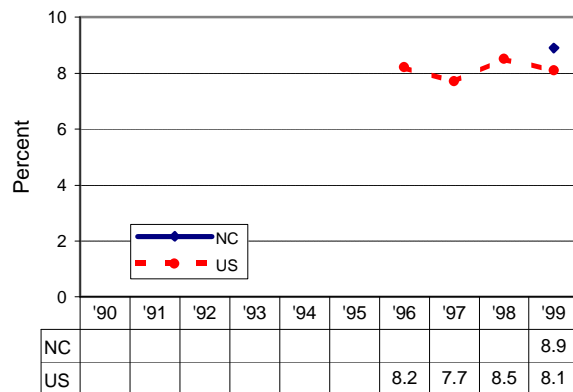


Figure 21b. Had a History of Heart Attack, MI, Angina, CHD or Stroke, 1999

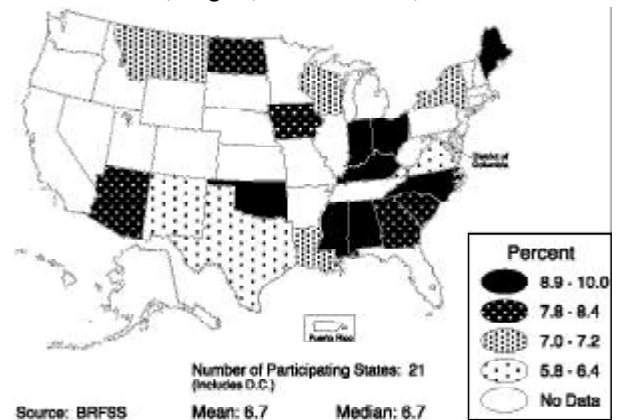


Table 21. Cardiovascular Disease History of NC Adults, 1999

| Demographic Groups | Had a History of Heart Attack, MI, Angina, CHD, or Stroke | | | | Had a History of Heart Attack, MI, Angina, or CHD | | | | Had a History of Stroke | | | |
|--------------------|---|-----|------|-----------|---|-----|------|-----------|-------------------------|----|------|----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2366 | 233 | 8.9 | 7.7-10.3 | 2367 | 180 | 6.8 | 5.7- 8.1 | 2370 | 89 | 3.3 | 2.6- 4.1 |
| SEX | | | | | | | | | | | | |
| Male | 939 | 119 | 11.4 | 9.3-13.9 | 939 | 95 | 9.1 | 7.2-11.5 | 943 | 38 | 3.5 | 2.5- 4.8 |
| Female | 1427 | 114 | 6.7 | 5.4- 8.1 | 1428 | 85 | 4.7 | 3.7- 5.9 | 1427 | 51 | 3.1 | 2.2- 4.2 |
| RACE | | | | | | | | | | | | |
| White | 1811 | 178 | 9.0 | 7.6-10.6 | 1813 | 139 | 7.0 | 5.7- 8.5 | 1814 | 60 | 2.9 | 2.2- 3.8 |
| African American | 489 | 50 | 9.0 | 6.6-12.1 | 488 | 37 | 6.3 | 4.4- 8.9 | 490 | 27 | 4.8 | 3.2- 7.3 |
| AGE | | | | | | | | | | | | |
| 18-24 | 185 | 1 | 0.5 | 0.1- 3.3 | 185 | 1 | 0.5 | 0.1- 3.3 | 185 | 0 | 0.0 | -- |
| 25-34 | 414 | 10 | 2.3 | 1.2- 4.4 | 414 | 6 | 1.1 | 0.5- 2.7 | 414 | 7 | 1.5 | 0.7- 3.4 |
| 35-44 | 491 | 17 | 3.0 | 1.8- 4.9 | 491 | 11 | 1.6 | 0.9- 3.1 | 491 | 8 | 1.5 | 0.7- 3.2 |
| 45-54 | 449 | 29 | 7.5 | 5.0-11.0 | 449 | 23 | 6.1 | 3.9- 9.5 | 450 | 10 | 2.0 | 1.0- 4.0 |
| 55-64 | 299 | 39 | 12.6 | 9.0-17.2 | 299 | 31 | 9.7 | 6.7-14.0 | 300 | 17 | 5.5 | 3.4- 9.0 |
| 65+ | 512 | 136 | 28.8 | 24.2-33.9 | 513 | 107 | 22.7 | 18.4-27.7 | 514 | 47 | 9.5 | 7.0-12.8 |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 396 | 79 | 20.3 | 15.7-25.9 | 396 | 62 | 16.4 | 12.0-21.8 | 399 | 30 | 6.7 | 4.5- 9.8 |
| H.S. or G.E.D. | 792 | 70 | 7.2 | 5.6- 9.3 | 792 | 53 | 5.3 | 3.9- 7.1 | 792 | 25 | 2.7 | 1.7- 4.1 |
| Some Post-H.S. | 545 | 37 | 6.1 | 4.3- 8.6 | 545 | 28 | 4.4 | 2.9- 6.5 | 545 | 16 | 2.8 | 1.6- 4.7 |
| College Graduate | 629 | 47 | 6.9 | 5.0- 9.3 | 630 | 37 | 5.3 | 3.8- 7.5 | 630 | 18 | 2.4 | 1.4- 4.0 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 250 | 49 | 15.5 | 11.4-20.6 | 250 | 37 | 11.2 | 7.9-15.7 | 251 | 20 | 6.5 | 4.0-10.4 |
| \$15,000- 24,999 | 414 | 45 | 11.4 | 7.8-16.4 | 413 | 37 | 9.5 | 6.1-14.4 | 414 | 16 | 3.3 | 1.9- 5.7 |
| \$25,000- 34,999 | 406 | 33 | 8.4 | 5.8-11.9 | 406 | 23 | 5.9 | 3.8- 9.1 | 406 | 11 | 2.5 | 1.3- 4.7 |
| \$35,000- 49,999 | 364 | 22 | 5.5 | 3.5- 8.6 | 364 | 18 | 4.5 | 2.8- 7.4 | 365 | 10 | 2.4 | 1.2- 4.6 |
| \$50,000+ | 535 | 26 | 4.2 | 2.8- 6.3 | 535 | 21 | 3.2 | 2.0- 5.0 | 535 | 7 | 1.3 | 0.6- 2.8 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 537 | 129 | 24.2 | 20.0-29.0 | 537 | 99 | 18.3 | 14.4-22.8 | 540 | 55 | 10.0 | 7.5-13.1 |
| No | 1769 | 92 | 4.6 | 3.7- 5.7 | 1770 | 70 | 3.5 | 2.7- 4.5 | 1770 | 31 | 1.4 | 1.0- 2.1 |

Folic Acid Use

Did not use multivitamins or vitamin pills containing folic acid

- 56.5 percent of all adults reported that they did not take multivitamins or vitamin pills/supplements containing folic acid.
- The rate of not taking multivitamins or vitamin pills/supplements containing folic acid was significantly higher for males (62.6%) than females (50.9%).
- African American adults were significantly more likely to not take multivitamins or vitamin pills/supplements containing folic acid than whites (65.7% vs. 54.0%).
- The proportion of persons not taking multivitamins or vitamin pills/supplements containing folic acid was highest in the younger age groups, the lower education groups, and the lower income groups.

Recognition that women of reproductive years should take folic acid to prevent birth defects (respondents under age 45 only)

- 56.6 percent of adults ages 18 to 44 knew that the reason for women to take 400 micrograms of the B vitamin folic acid was to prevent birth defects.
- More women (65.1%) than men (47.3%) knew that the reason for women to take 400 micrograms of the B vitamin folic acid was to prevent birth defects.
- A substantially smaller proportion of African Americans (40.4%) than whites (61.3%) knew that women should take folic acid to prevent birth defects.
- College graduates were more likely than those with less education to recognize that women should take folic acid to prevent birth defects.
- The recognition rates were similar among the age and income groups.

Figure 22a. Percentage of NC Adults Who Did Not Take Vitamins Containing Folic Acid by Age, 1999

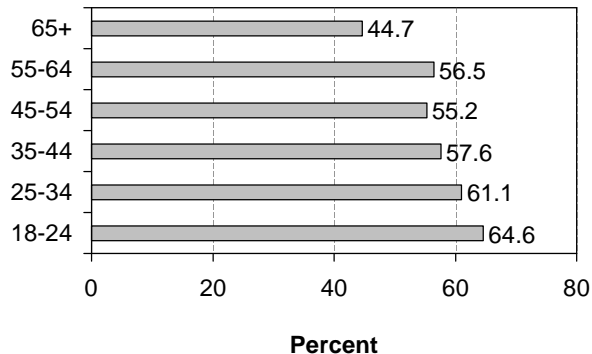


Figure 22b. Percentage of NC Adults Who Did Not Take Vitamins Containing Folic Acid on a Daily Basis by Age, 1999

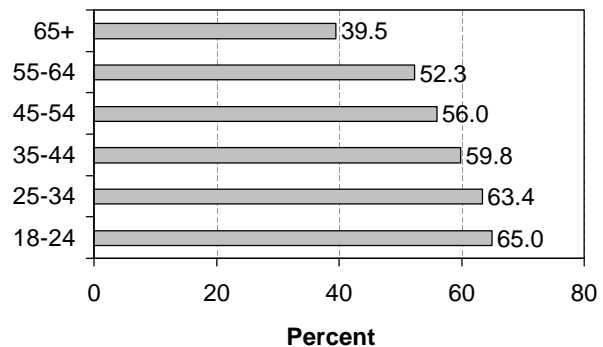


Figure 22c. Percentage of NC Adults Who Knew That Folic Acid Could Prevent Birth Defects by Gender (ages 18-44), 1999

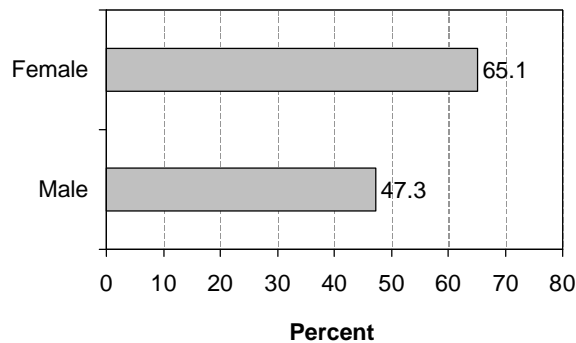


Figure 22d. Did Not Use Multivitamins or Vitamin Pills Containing Folic Acid, 1999

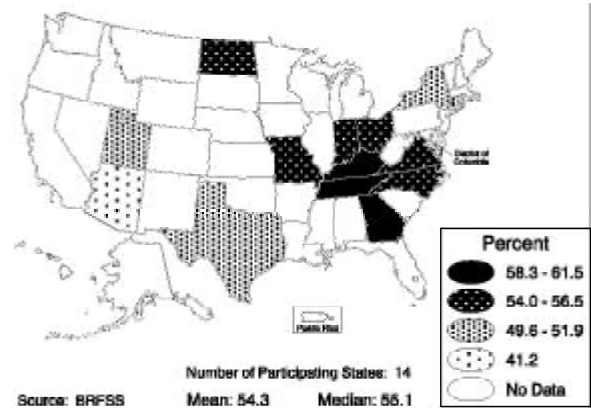


Table 22. Folic Acid Use and Awareness of Birth Defects Prevention Using Daily Folic Acid among NC Adults, 1999

| Demographic Groups | Did not Take Multivitamins or Vitamin Pills/Supplements Containing Folic Acid | | | | Did Not Take Multivitamins or Vitamin Pills/Supplements Containing Folic Acid Daily | | | | Knew That Folic Acid Could Prevent Birth Defects (ages 18-44) | | | |
|--------------------|---|------|------|-----------|---|------|------|-----------|---|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2371 | 1286 | 56.5 | 54.1-58.8 | 2180 | 1180 | 56.5 | 54.0-58.9 | 735 | 420 | 56.6 | 52.2-60.9 |
| SEX | | | | | | | | | | | | |
| Male | 945 | 578 | 62.6 | 59.0-66.0 | 866 | 530 | 63.2 | 59.4-66.8 | 297 | 149 | 47.3 | 40.8-53.9 |
| Female | 1426 | 708 | 50.9 | 47.8-53.9 | 1314 | 650 | 50.2 | 47.1-53.4 | 438 | 271 | 65.1 | 59.5-70.3 |
| RACE | | | | | | | | | | | | |
| White | 1820 | 942 | 54.0 | 51.3-56.6 | 1674 | 865 | 53.8 | 51.0-56.6 | 546 | 334 | 61.3 | 56.2-66.0 |
| African American | 485 | 304 | 65.7 | 60.5-70.5 | 446 | 279 | 66.1 | 60.7-71.1 | 167 | 72 | 40.4 | 31.6-49.7 |
| AGE | | | | | | | | | | | | |
| 18-24 | 185 | 115 | 64.6 | 56.2-72.1 | 175 | 111 | 65.0 | 56.4-72.7 | 127 | 72 | 57.8 | 47.2-67.8 |
| 25-34 | 416 | 234 | 61.1 | 55.6-66.4 | 398 | 235 | 63.4 | 57.9-68.6 | 286 | 181 | 60.1 | 52.9-66.9 |
| 35-44 | 491 | 285 | 57.6 | 52.7-62.4 | 467 | 279 | 59.8 | 54.8-64.6 | 314 | 164 | 52.9 | 46.8-59.0 |
| 45-54 | 452 | 243 | 55.2 | 49.8-60.4 | 412 | 226 | 56.0 | 50.3-61.4 | - | - | - | - |
| 55-64 | 300 | 163 | 56.5 | 50.4-62.4 | 263 | 132 | 52.3 | 45.8-58.7 | - | - | - | - |
| 65+ | 511 | 235 | 44.7 | 39.9-49.6 | 450 | 186 | 39.5 | 34.5-44.6 | - | - | - | - |
| EDUCATION | | | | | | | | | | | | |
| Less Than H.S. | 400 | 263 | 65.2 | 59.3-70.6 | 355 | 225 | 62.4 | 56.0-68.3 | 60 | 31 | 51.8 | 37.3-66.1 |
| H.S. or G.E.D. | 791 | 469 | 62.4 | 58.4-66.2 | 735 | 442 | 63.0 | 58.9-66.9 | 228 | 116 | 53.4 | 45.8-60.9 |
| Some Post-H.S. | 544 | 291 | 55.2 | 50.2-60.1 | 499 | 267 | 56.3 | 51.0-61.4 | 195 | 107 | 52.1 | 43.1-61.0 |
| College Graduate | 632 | 260 | 43.5 | 39.0-48.1 | 587 | 242 | 43.3 | 38.6-48.0 | 250 | 166 | 66.2 | 58.8-72.8 |
| HOUSEHOLD INCOME | | | | | | | | | | | | |
| Less than \$15,000 | 251 | 157 | 63.7 | 55.9-70.9 | 235 | 147 | 63.8 | 55.6-71.2 | 58 | 27 | 48.4 | 32.3-64.9 |
| \$15,000- 24,999 | 412 | 234 | 61.4 | 55.3-67.2 | 370 | 205 | 59.5 | 52.9-65.7 | 121 | 66 | 58.8 | 47.1-69.5 |
| \$25,000- 34,999 | 407 | 220 | 53.5 | 47.9-59.0 | 372 | 198 | 53.5 | 47.7-59.3 | 156 | 90 | 57.8 | 48.9-66.3 |
| \$35,000- 49,999 | 366 | 195 | 54.7 | 49.0-60.3 | 341 | 183 | 55.5 | 49.6-61.3 | 121 | 75 | 59.2 | 49.0-68.6 |
| \$50,000+ | 540 | 258 | 51.1 | 46.2-56.0 | 505 | 248 | 52.5 | 47.4-57.5 | 209 | 122 | 56.7 | 48.3-64.7 |
| DISABILITY STATUS | | | | | | | | | | | | |
| Yes | 541 | 287 | 52.4 | 47.2-57.4 | 486 | 250 | 50.2 | 44.8-55.6 | 105 | 52 | 50.6 | 38.7-62.4 |
| No | 1776 | 968 | 57.5 | 54.8-60.1 | 1641 | 898 | 57.9 | 55.1-60.6 | 618 | 362 | 58.0 | 53.3-62.7 |

Family Planning

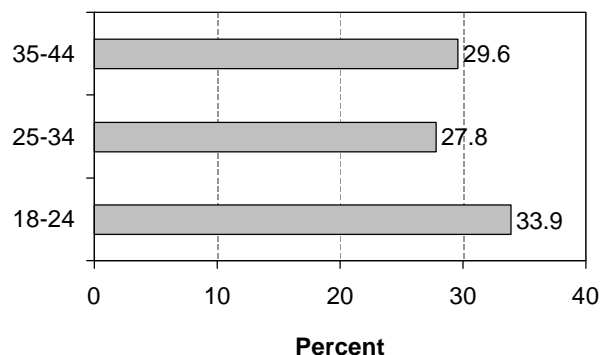
Unintended pregnancy within the last 5 years

- More than 40 percent (43.7%) of women who had been pregnant within the past five years reported that their *last* pregnancy was unintended, i.e., not wanted at all or wanted at a later time.
- Almost three-quarters of African American women (71.6%) reported that their last pregnancy was unintended; this compares to about one-third (34.2%) of white women. However, the percentage for African Americans is based on less than 50 respondents and so may not be reliable.
- Among all demographic groups, unmarried women had the highest rate (78.1%) of unintended pregnancies; this rate, however, may be unreliable due to the small number of women in this marital group (n=59) (data not shown in table).

No birth control use among sexually active women

- About 30 percent of all sexually active women reported that they were not using birth control.
- African American women were somewhat more likely (34.5%) than white women (28.6%) to report not using birth control.
- By educational status, the rates were highest among the least educated groups and lowest among college graduates, though the difference between these rates was not statistically significant.
- The rates of no-birth-control use tended to fluctuate by income status; no clear pattern emerged.

**Figure 23a. Did Not Use Birth Control
(Sexually Active Women) by Age, 1999**



**Figure 23b. Did Not Use Birth Control
(Sexually Active Women), 1999**

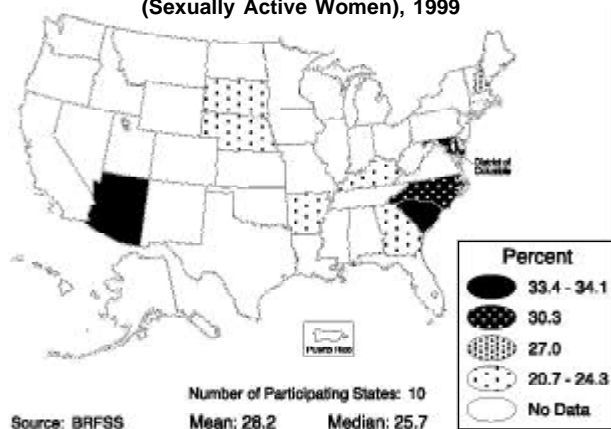


Table 23. Family Planning among NC Women (Age 18-44), 1999

| Demographic Groups | Unintendedness of Pregnancy within the Last 5 Years | | | | Birth Control not Used Among Sexually Active Women | | | |
|--------------------------|--|----|------|-----------|---|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | | | | | | | | |
| Females | 207 | 82 | 43.7 | 36.2-51.5 | 463 | 133 | 30.3 | 25.3-35.8 |
| RACE | | | | | | | | |
| White | 153 | 49 | 34.2 | 26.4-43.1 | 327 | 90 | 28.6 | 23.0-34.8 |
| African American | * | * | * | * | 119 | 37 | 34.5 | 23.7-47.1 |
| AGE | | | | | | | | |
| 18-24 | * | * | * | * | 72 | 17 | 33.9 | 21.3-49.3 |
| 25-34 | 116 | 40 | 33.3 | 24.8-43.0 | 210 | 56 | 27.8 | 21.1-35.8 |
| 35-44 | 50 | 13 | 26.4 | 15.6-40.9 | 177 | 56 | 29.6 | 22.9-37.3 |
| EDUCATION | | | | | | | | |
| Less Than H.S. | * | * | * | * | * | * | * | * |
| H.S. or G.E.D. | 81 | 37 | 53.2 | 40.4-65.6 | 166 | 50 | 33.6 | 25.5-42.9 |
| Some Post-H.S. | 54 | 21 | 38.8 | 26.2-53.2 | 112 | 29 | 28.1 | 18.8-39.7 |
| College Graduate | 60 | 20 | 34.6 | 23.1-48.2 | 144 | 39 | 26.0 | 17.7-36.5 |
| HOUSEHOLD INCOME | | | | | | | | |
| Less than \$15,000 | * | * | * | * | * | * | * | * |
| \$15,000- 24,999 | * | * | * | * | 92 | 24 | 33.9 | 21.2-49.4 |
| \$25,000- 34,999 | * | * | * | * | 95 | 17 | 22.5 | 14.1-33.7 |
| \$35,000- 49,999 | * | * | * | * | 74 | 23 | 29.6 | 18.9-43.1 |
| \$50,000+ | 54 | 15 | 29.1 | 18.1-43.2 | 113 | 37 | 31.8 | 23.1-41.9 |
| DISABILITY STATUS | | | | | | | | |
| Yes | * | * | * | * | 55 | 19 | 30.2 | 17.7-46.5 |
| No | 175 | 71 | 45.9 | 37.6-54.4 | 398 | 110 | 30.1 | 24.7-36.1 |

*Indicates that total respondents in the category are less than 50 and estimates are not presented here.

Injury Prevention

Households with no smoke detectors or not tested within the last six months

- 27.2 percent of North Carolina adults reported that they did not have a smoke detector (2.4%) or did not test all smoke detectors in the last six months (24.8%).
- The rates for not testing smoke detectors or not having one were somewhat higher among whites (27.9%) than African Americans (23.9%).
- The no-test or not having a smoke detector rates were the highest among those with college degrees (32.7%) and the lowest among those with a high school degree (22.8%) or less education (23.1%).
- With regard to income, the highest rate (33.4%) was reported among those with less than \$15,000 total income, while the lowest rate (21.8%) occurred in the next highest income category (\$15,000-\$24,999).

Parents whose children did not always wear bicycle helmet in the last year

- Overall, about 70 percent of parents (69.1%) reported that their child(ren) did not always wear a bicycle helmet when riding a bicycle in the past year.
- The reported rate was somewhat higher among African American parents (73.2%) than among white parents (67.4%).
- The youngest parents, ages 18 to 24, were more likely (78.6%) than any other age group to report that their child(ren) did not always wear a bicycle helmet.
- The rate among parents with less than a high school education (81.1%) was noticeably higher than that among parents with a college education (57.3%).
- Though the numbers are too small to offer a reliable estimate, the highest reported rate of any demographic group (90.1%) was found among parents in the lowest economic group, i.e., less than \$15,000.

Figure 24a. Parents Whose Children Did Not Always a Wear Bicycle Helmet in the Last Year

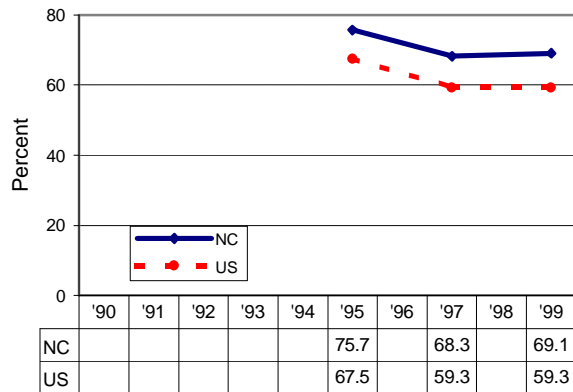


Figure 24b. Did Not Have Smoke Detectors or Not Tested All Smoke Detectors within the Last 6 Months, 1999

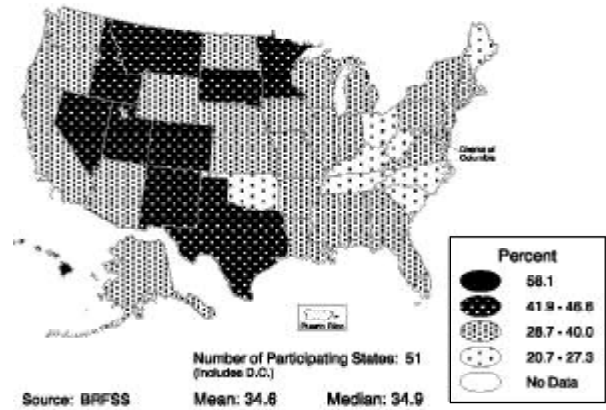


Table 24. Injury Prevention Efforts of NC Adults, 1999

| Demographic Groups | No Smoke Detector or Not Tested All Smoke Detectors in the Last Six Months | | | | Parents Whose Children did not Always Wear Bicycle Helmet in the Last 12 Months | | | |
|--------------------|--|-----|------|-----------|---|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2255 | 633 | 27.2 | 25.1-29.5 | 470 | 326 | 69.1 | 64.0-73.7 |
| SEX | | | | | | | | |
| Male | 910 | 240 | 25.7 | 22.6-29.2 | 183 | 137 | 74.6 | 67.1-80.9 |
| Female | 1345 | 393 | 28.7 | 25.9-31.6 | 287 | 189 | 63.8 | 57.0-70.1 |
| RACE | | | | | | | | |
| White | 1723 | 494 | 27.9 | 25.5-30.4 | 329 | 221 | 67.4 | 61.3-73.0 |
| African American | 471 | 118 | 23.9 | 19.4-29.1 | 132 | 98 | 73.2 | 63.6-81.0 |
| AGE | | | | | | | | |
| 18-24 | 168 | 50 | 29.0 | 21.4-38.2 | 19 | 15 | 78.6 | 47.4-93.7 |
| 25-34 | 397 | 94 | 23.2 | 18.4-28.8 | 134 | 94 | 68.5 | 57.9-77.6 |
| 35-44 | 470 | 127 | 26.8 | 22.3-31.4 | 220 | 151 | 68.7 | 61.8-74.9 |
| 45-54 | 426 | 138 | 30.4 | 25.7-35.7 | 80 | 56 | 71.0 | 58.9-80.7 |
| 55-64 | 290 | 83 | 28.6 | 23.3-34.6 | 9 | 4 | 45.4 | 16.6-77.6 |
| 65+ | 490 | 136 | 26.4 | 22.3-30.9 | 7 | 5 | 60.7 | 19.8-90.6 |
| EDUCATION | | | | | | | | |
| Less Than H.S. | 391 | 103 | 23.1 | 18.9-27.9 | 55 | 47 | 81.1 | 59.9-92.5 |
| H.S. or G.E.D. | 745 | 179 | 22.8 | 19.6-26.3 | 170 | 127 | 75.6 | 67.8-82.0 |
| Some Post-H.S. | 520 | 154 | 30.8 | 25.9-36.3 | 124 | 84 | 63.6 | 53.3-72.8 |
| College Graduate | 595 | 195 | 32.7 | 28.5-37.2 | 121 | 68 | 57.3 | 47.6-66.4 |
| HOUSEHOLD INCOME | | | | | | | | |
| Less than \$15,000 | 245 | 76 | 33.4 | 26.0-41.8 | 30 | 27 | 90.1 | 68.5-97.5 |
| \$15,000- 24,999 | 405 | 91 | 21.8 | 17.2-27.2 | 81 | 65 | 72.3 | 56.1-84.2 |
| \$25,000- 34,999 | 389 | 104 | 24.8 | 20.3-30.0 | 83 | 57 | 69.9 | 58.4-79.4 |
| \$35,000- 49,999 | 342 | 84 | 22.7 | 18.3-27.9 | 84 | 57 | 69.2 | 57.8-78.6 |
| \$50,000+ | 512 | 161 | 30.5 | 25.9-35.6 | 151 | 97 | 66.5 | 58.0-74.1 |
| DISABILITY STATUS | | | | | | | | |
| Yes | 519 | 137 | 26.4 | 21.9-31.3 | 71 | 47 | 65.2 | 52.4-76.2 |
| No | 1666 | 483 | 28.0 | 25.5-30.6 | 377 | 269 | 71.6 | 65.9-76.6 |

Sexual Assault

Ever forced to have sex by a stranger

- 3.5 percent of NC adults (males and females) reported that a stranger had forced them to have sex. (Given the sensitivity of this issue, the true prevalence of sexual assault is likely to be higher than that reported in the BRFSS.)
- The rate among females (4.6%) was twice the rate reported among males (2.3%).
- The rates among African Americans (5.7%) was higher than the rate among whites (3.0%).
- The rate of forced-sex by a stranger among the disability population (6.7%) was about 2½ times the rate found in the no-disability population (2.7%).

Ever forced to have sex by a partner or ex-partner

- 4.8 percent of adults reported their partner or ex-partner had forced them to have sex.
- African Americans reported a higher rate than did whites.
- The rate of forced sex by a partner/ex-partner tended to decrease with age.
- The rates were fairly similar across education groups.
- The rate was about twice as high in the very low income group (<\$15,000), compared to the rates for the remaining income groups; however, small numerators jeopardize the reliability of these estimates.
- Persons who were divorced or separated reported a substantially higher rate (11.3%) of forced sex by a partner than any other demographic group (data not shown in table).

Ever forced to have sex by an acquaintance

- 5 percent of NC adults reported that someone they knew other than a partner or ex-partner forced them to have sex.
- The rate among females (6.9%) was more than twice the rate reported among males (3.0%).
- The rate of forced sex by an acquaintance among the disability population (10.0%) was about 2½ times the rate found in the no-disability population

Ever forced to have sex by anyone

- 9.4 percent of NC adults reported that they have ever been forced to have sex by anyone.
- Females were more than twice as likely as males to report ever being forced to have sex.
- About one out of ten 18 to 44 year olds reported that they had ever been forced to have sex.
- By income status, the highest risk appeared to be associated with poverty (household incomes less than \$15,000).
- The rate was higher for people with disabilities (14.6%) than the no-disability group.
- Among divorced/separated individuals, almost 1 out of 10 (8%) reported forced sex (data not shown in table).

Healthy Carolinians 2010 Objective (Conference Edition – 2000)

- Reduce the rate of physical abuse by current or former intimate partners (Developmental Objective, baseline data to be collected in 2001.)

Figure 25a. Percentage of NC Adults Forced to Have Sex by Anyone by Age, 1999

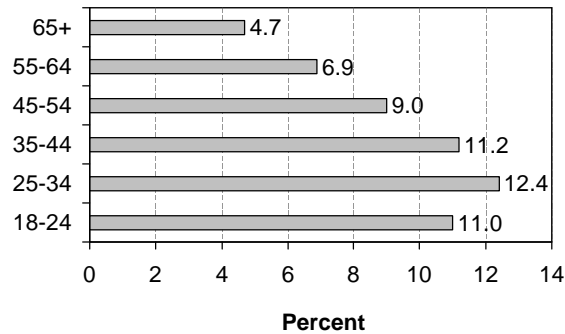


Figure 25b. Percentage of NC Adults Forced to Have Sex by Anyone by Marital Status, 1999

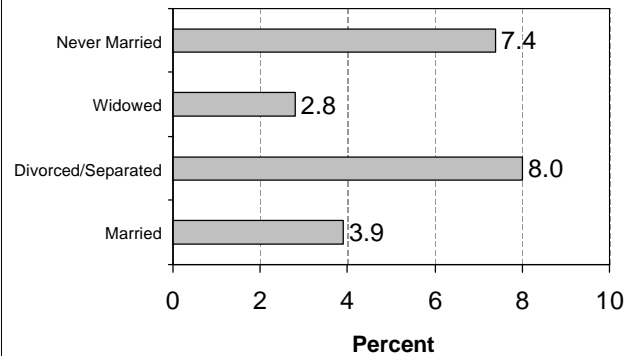


Table 25. Sexual Assault of NC Adults, 1999

| Demographic Groups | A Stranger Ever Forced You to Have Sex | | | | A Partner or Ex-Partner Ever Forced You to Have Sex | | | | Someone You Knew Other than Partner or Ex-Partner Ever Forced You to Have Sex | | | | Someone Ever Forced You to Have Sex | | | |
|--------------------|--|----|-----|----------|---|-----|------|----------|---|-----|------|-----------|-------------------------------------|-----|------|-----------|
| | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. | Total Resp. | N | % | 95% C.I. |
| TOTAL | 2259 | 79 | 3.5 | 2.6- 4.6 | 2263 | 118 | 4.8 | 3.8- 6.0 | 2263 | 115 | 5.0 | 4.0- 6.3 | 2258 | 232 | 9.4 | 8.1-10.9 |
| SEX | | | | | | | | | | | | | | | | |
| Male | 894 | 21 | 2.3 | 1.4- 3.7 | 895 | 18 | 2.4 | 1.4- 4.0 | 898 | 25 | 3.0 | 2.0- 4.6 | 895 | 48 | 5.5 | 4.0- 7.5 |
| Female | 1365 | 58 | 4.6 | 3.2- 6.5 | 1368 | 100 | 7.0 | 5.5- 9.0 | 1365 | 90 | 6.9 | 5.3- 8.8 | 1363 | 184 | 12.9 | 10.9-15.2 |
| RACE | | | | | | | | | | | | | | | | |
| White | 1749 | 56 | 3.0 | 2.2- 4.0 | 1754 | 89 | 4.4 | 3.5- 5.6 | 1754 | 91 | 4.8 | 3.8- 6.1 | 1750 | 174 | 8.9 | 7.6-10.5 |
| African Am. | 449 | 22 | 5.7 | 3.0-10.6 | 448 | 26 | 6.5 | 3.7-11.5 | 447 | 19 | 5.4 | 2.7-10.3 | 447 | 52 | 11.2 | 7.7-16.0 |
| AGE | | | | | | | | | | | | | | | | |
| 18-24 | 175 | 10 | 4.8 | 2.4- 9.5 | 175 | 12 | 6.5 | 3.4-12.0 | 175 | 11 | 5.5 | 2.9- 10.3 | 175 | 23 | 11.0 | 6.9-17.1 |
| 25-34 | 404 | 11 | 4.2 | 1.8- 9.4 | 405 | 28 | 6.3 | 3.6-10.8 | 405 | 27 | 7.8 | 4.7-12.7 | 404 | 50 | 12.4 | 8.7-17.3 |
| 35-44 | 478 | 18 | 3.4 | 2.1- 5.5 | 478 | 31 | 5.5 | 3.7- 8.0 | 478 | 31 | 6.2 | 4.2- 8.9 | 478 | 61 | 11.2 | 8.6-14.4 |
| 45-54 | 432 | 22 | 3.7 | 2.2- 6.0 | 435 | 28 | 5.1 | 3.4- 7.7 | 434 | 22 | 3.5 | 2.2- 5.7 | 432 | 52 | 9.0 | 6.6-12.1 |
| 55-64 | 285 | 9 | 3.3 | 1.6- 6.5 | 285 | 8 | 2.8 | 1.3- 5.8 | 284 | 11 | 3.8 | 2.1- 7.0 | 284 | 21 | 6.9 | 4.4-10.8 |
| 65+ | 469 | 8 | 1.7 | 0.8- 3.5 | 469 | 11 | 2.1 | 1.1- 4.0 | 471 | 13 | 2.6 | 1.4- 4.7 | 469 | 24 | 4.7 | 3.0- 7.2 |
| EDUCATION | | | | | | | | | | | | | | | | |
| Less Than H.S. | 372 | 16 | 3.6 | 2.1- 6.2 | 372 | 18 | 5.2 | 3.2- 8.3 | 373 | 18 | 4.9 | 3.0- 8.1 | 372 | 37 | 9.5 | 6.7-13.3 |
| H.S. or G.E.D. | 747 | 30 | 4.3 | 2.8- 6.4 | 748 | 38 | 4.6 | 3.1- 6.7 | 746 | 42 | 5.7 | 4.0- 8.0 | 746 | 81 | 10.3 | 8.0-13.1 |
| Some Post-H.S. | 527 | 18 | 3.8 | 1.9- 7.5 | 529 | 26 | 4.7 | 2.6- 8.4 | 527 | 23 | 4.4 | 2.4- 8.0 | 526 | 50 | 8.6 | 6.0-12.3 |
| College Graduate | 609 | 15 | 2.1 | 1.1- 3.8 | 610 | 36 | 5.1 | 3.6- 7.2 | 613 | 32 | 4.8 | 3.3- 7.0 | 610 | 64 | 8.9 | 6.8-11.6 |
| HOUSEHOLD INCOME | | | | | | | | | | | | | | | | |
| < \$15,000 | 234 | 14 | 7.7 | 3.2-17.4 | 233 | 16 | 10.1 | 5.0-19.7 | 233 | 16 | 9.3 | 4.4-18.6 | 233 | 34 | 16.4 | 10.3-25.1 |
| \$15,000- 24,999 | 394 | 17 | 3.6 | 2.0- 6.5 | 395 | 27 | 4.7 | 3.1- 7.1 | 395 | 24 | 5.6 | 3.5- 8.8 | 394 | 49 | 9.8 | 7.1-13.4 |
| \$25,000- 34,999 | 393 | 12 | 3.1 | 1.6- 5.8 | 393 | 20 | 4.0 | 2.5- 6.5 | 393 | 21 | 5.8 | 3.6- 9.2 | 393 | 38 | 9.0 | 6.3-12.6 |
| \$35,000- 49,999 | 352 | 13 | 3.2 | 1.8- 5.7 | 352 | 19 | 4.7 | 2.9- 7.6 | 352 | 16 | 4.2 | 2.5- 7.1 | 352 | 37 | 9.1 | 6.4-12.7 |
| \$50,000+ | 529 | 10 | 1.9 | 0.9- 3.7 | 530 | 22 | 3.4 | 2.1- 5.3 | 530 | 19 | 2.8 | 1.7- 4.6 | 528 | 39 | 6.3 | 4.4- 8.7 |
| DISABILITY STATUS | | | | | | | | | | | | | | | | |
| Yes | 514 | 30 | 6.7 | 3.9-11.1 | 516 | 33 | 7.3 | 4.5-11.5 | 516 | 44 | 10.0 | 6.8-14.5 | 515 | 71 | 14.6 | 10.9-19.2 |
| No | 1734 | 49 | 2.7 | 2.0- 3.7 | 1736 | 84 | 4.1 | 3.2- 5.3 | 1736 | 71 | 3.8 | 2.9- 4.9 | 1732 | 160 | 8.0 | 6.7- 9.5 |

Special Section

Health Behaviors and Health Risks among North Carolina Adults with Disabilities

Introduction

Surveillance of Disabilities

Historically, the monitoring of health risks through the Behavioral Risk Factor Surveillance System (BRFSS) has served as the basis for efforts to promote health and prevent disease among North Carolinians. Surveillance through the BRFSS has been used to design efforts to reduce the major behavioral risks associated with premature morbidity and mortality among adults. Until recently, however, these data were not available for the population of NC adults with disabilities and activity limitations. Surveillance of the health behaviors and risks of individuals with disabilities can serve as the foundation for public health action to promote the health of this segment of the population. Moreover, there is promising evidence that the benefits of health promotion for individuals with disabilities include not only the prevention of chronic conditions such as cancer and cardiovascular disease, but also contribute to maintaining functional independence and enhanced quality of life.^{1,2} A greater emphasis must be placed on health promotion initiatives for people with disabilities in order to achieve these objectives and the BRFSS can serve as an important tool for measuring state progress over time.

NC Disability Population

According to the 1999 NC BRFSS survey, approximately 1.2 million adults (ages 18 and older) in North Carolina were living with some type of disability. Examining this occurrence by age, an estimated 12.5 percent of the state's population of 18 to 44 year olds, or an estimated 403,000 persons, had a disability of some kind. Among 45 to 64 year olds, an estimated 415,000 persons or 27.7 percent of the population had a disability; among the oldest age group, those 65 and older, an estimated 364,000 persons or 39.1 percent of the population had a disability. These estimates indicate that across the adult lifespan a substantial number of North Carolinians are living with some type of disability. In addition, it is clear that the occurrence of disability is considerably higher among middle aged adults (45-64 years) and much higher among the elderly population.

By 2010, the number of persons ages 65 and older in North Carolina is expected to increase by about 22 percent, almost twice the projected 12.2 percent population growth rate for the state as a whole. Life expectancy at birth is also expected to increase for all race-sex groups*. These demographic changes, in combination with higher survival rates for individuals with congenital, developmental, and acquired disabilities and chronic health conditions, will likely increase the number of persons with disabilities. For example, we can anticipate an increase especially in the number of older persons with disabilities. We can anticipate that persons with disabilities will live longer than they have in the past as new treatments are found. We can also expect that the need for accessible public health programs responsive to the needs of people with disabilities will increase substantially in the next ten years. To help us prepare for and address these expected changes, on-going surveillance of persons with disabilities becomes essential.

*NC Office of State Budget, Planning and Management website: <http://osbm.state.nc.us/>

Focus of Study

In this special section of the BRFSS Report, we examine differences in sociodemographic status, health status, and quality of life among persons with disabilities as compared to the general population. In addition, we examine differences between persons with disabilities who require personal care assistance and those who do not. These two disability subgroups were constructed for this study to further capture the diversity of experience and degree of impairment within the disability population. Our purpose here is to better understand the health and well-being of these two segments of the disability population, i.e., those requiring the help of others for daily living activities versus those *not* requiring the help of others. We hope that the following will provide useful information for enhancing our efforts to improve the health and quality of life for all people with disabilities.

Methods

Measurement of Disability

Prior to 1998, the BRFSS Survey used only a single question, introduced by the Centers for Disease Control and Prevention (CDC) in Atlanta, to identify the disability population: “*Are you limited in any way in any activities because of any impairment or health problem?*” Recognizing that this question captured only a portion of the variation in human limitations, three new screener questions were incorporated into the BRFSS Survey (Disability/Quality of Life Module). These new questions were designed to measure different types of limitations, including problems with learning and remembering (cognitive), and limited mobility, i.e., the need for assistive devices. In 1998, the North Carolina Office on Disability and Health also introduced its own screener question, which asked respondents if they identified themselves to be a person with a “disability.”

Work continues on the definition of disability in human populations. There is yet to be consensus among researchers as how to best identify persons with disabilities via population-based surveys. In the coming years, we may expect some modifications to our current BRFSS definition of disability.

Study Design

Survey data were combined from the 1998 and 1999 NC BRFSS. By combining two years of data, we were able to reduce the problem of small numbers for subgroup analyses.

The following four questions from the 1998 and 1999 NC BRFSS were used to identify adults, ages 18 and older, with disabilities in North Carolina:

- **Self Perception**
“A disability can be physical, mental, emotional or communication related. Do you consider yourself to have a disability?”
- **General Activity Limitation**
“Are you limited in any way in any activities because of any impairment or health problem?”
- **Learning Limitation**
“Because of any impairment or health problem, do you have any trouble learning, remembering or concentrating?”
- **Need for special equipment**
“If you use special equipment or help from others to get around, what type do you use?”

The study population of all persons with disabilities was identified from a positive response to one or more of the above disability screeners. Two independent disability subgroups were constructed, based on an approach developed by the Rhode Island BRFSS Program.³ Those who reported needing the help of others for personal care, such as bathing, or help with routine needs, such as shopping, were assigned to the needs assistance group (yes-assist); those who said “no” to both personal and routine care needs were assigned to the no assistance group (no-assist). Those who responded negatively to all four disability questions were assigned to the ‘no-disability’ group. Respondents with missing responses to any of the disability questions were excluded from the analysis.

Disability Sample

For the study period (calendar years 1998 & 1999), there were a total of 4,652 completed interviews available for analysis. From this total, 1,124 respondents were identified with one or more limitations, comprising the disability study population. Within the disability population, 261 respondents reported the need for personal care assistance or help with routine needs.

Based on these figures, the overall (weighted percentage) prevalence of NC adults with any type of disability was 22 percent. Of adults with disabilities, the prevalence of those needing personal care assistance was 21 percent. It is important to recognize, however, that both of these estimates underestimate the true prevalence of adults with disabilities in North Carolina, since the BRFSS Survey does not include individuals with disabilities living in institutional settings, such as nursing homes or residential facilities. It also excludes persons who, due to limited stamina or other impairments, are unable to complete the (15-20 minute) telephone interview, or deaf individuals or those with hearing impairments who rely on TTY/TDD.

In the following, we begin with a discussion of the types of impairment found among the yes-assist and no-assist groups. We then proceed with a discussion of the prevalence of low sociodemographic status, poor health status, poor quality of life (perception of pain, sadness, and anxiety), and the presence of high-risk behaviors and chronic health conditions among all three study groups: no-disability, no-assist, and yes-assist.

Results

All reported percentages are based on weighted data, which corrects for over- or under-representation of the sample with respect to the state’s age-race-sex populations. For any table cell that contains fewer than 50 respondents in the numerator, an asterisk (*) is indicated next to the cell number to alert the reader that these results should be interpreted with caution.

Disability Subgroups

Table 1a shows the distribution of positive responses to the four screener questions among the two disability subgroups. The majority of individuals responded affirmatively to more than one type of limitation (whereby column totals exceed 100%). The results further indicate that individuals needing personal care assistance were much more likely to consider their limitation a disability (83.9%), than those not requiring assistance (57.0%). Similarly, the proportions of those reporting an activity limitation or need for special equipment were substantially higher among the yes-assist group than among the no-assist group. Only with respect to reporting a learning problem do we see comparable rates for both disability groups.

| Table 1a. Positive response to the NC BRFSS disability screener questions by disability subgroups | | | | | | |
|--|----------|------------------|-----------------|----------|-------------------|-----------------|
| Disability screener | # | No-assist | | # | Yes-assist | |
| | | %-Yes | 95% C.I. | | %-Yes | 95% C.I. |
| 1. Self-perceived disability | 303 | 57.0 | (51.5-62.3) | 214 | 83.9 | (78.0-88.5) |
| 2. Activity limitation | 374 | 70.1 | (64.7-74.9) | 237 | 92.0 | (87.4-95.1) |
| 3. Learning problem | 171 | 34.8 | (29.5-40.6) | 108 | 39.7 | (32.2-47.6) |
| 4. Need special equipment | 70 | 11.7 | (9.0-15.1) | 126 | 45.7 | (38.0-53.7) |

Respondents with disabilities were also asked to indicate, in their own words, the major impairment or health problem that limits their activities. These responses were then coded by the interviewer using a taxonomy based on the International Classification of Impairments, Disabilities and Handicaps-2 (ICIDH-2). As shown in Table 1b, the distribution of major impairments was similar for both groups with the exception of a significantly larger proportion of those in need of assistance reporting a circulatory impairment (21%), compared to those not in need (11.3%). Furthermore, for both groups, the largest impairment category associated with disability was musculoskeletal, encompassing conditions such as, arthritis, back pain, fibromyalgia, polio, and osteoporosis.

| Table 1b. Reported major limitations (top 5) by disability subgroups | | | | |
|---|------------------|----------|-------------------|----------|
| Reported major limitations | No-assist | | Yes-assist | |
| | # | % | # | % |
| 1 Musculoskeletal | 206 | 37.4 | 97 | 39.0 |
| 2. Circulatory | 62 | 11.3 | 39* | 21.0 |
| 3. Respiratory | 46* | 9.1 | 17* | 5.8 |
| 4. Central nervous system | 24* | 7.6 | 18* | 8.4 |
| 5. Metabolic/digestive | 17* | 2.9 | 12* | 5.2 |

All Study Groups: Sociodemographic Status

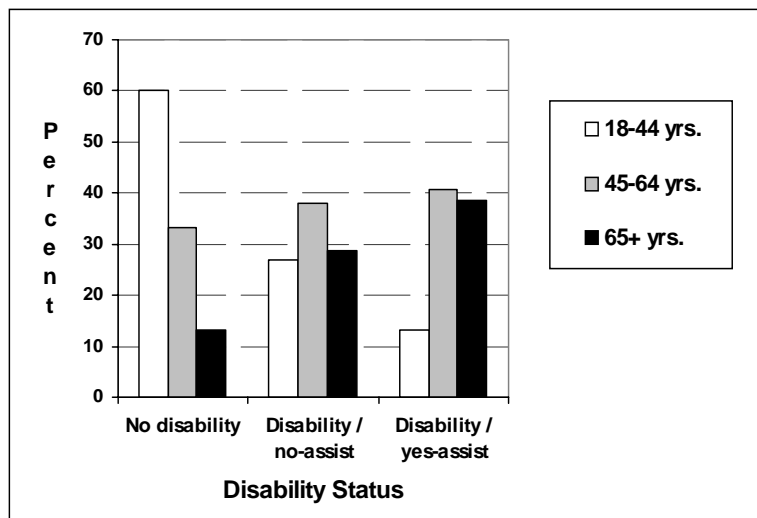
The results shown in Table 2 indicate that there are substantial group differences in the prevalence of some risk factors, such as low education or lack of employment. For example, the rate of low education (<high school) among the yes-assist group (44.0%) was nearly twice that of the no-assist group (23.8%) which, in turn, was about twice as high as the rate found among the no-disability group (12.8%). Similarly, there were noticeable differences with respect to employment status. More than a third of the yes-assist group (37%) reported being unable to work, compared to 11.3 percent of the no-assist group and less than one percent (0.05%) of the no-disability group. With respect to being employed, 72.4 percent of the no-disability group reported working; 46.6 percent of the no-assist group reported working; and 13.8 percent of the yes-assist group reported working.

The presence of a disability of some kind was also strongly associated with very low household income. Approximately 30 percent of all individuals with a disability (both subgroups combined), as contrasted to only 7 percent of those without a disability, reported a total household income of less than \$15,000 dollars. The percentage in the top income category (\geq \$50,000) was 29 percent for the no-disability population, 17 percent for the no-assist population, and 11 percent for the yes-assist population.

| Table 2. Sociodemographic characteristics by disability status | | | | | | | | | |
|---|----------------------|----------|-----------------|-----------------------------|----------|-----------------|------------|----------|-----------------|
| | No Disability | | | Disability Subgroups | | | | | |
| | # | % | 95% C.I. | # | % | 95% C.I. | # | % | 95% C.I. |
| Education | | | | | | | | | |
| Less than high school | 461 | 12.8 | (11.4-14.4) | 129 | 23.8 | (19.5-28.6) | 118 | 44.0 | (36.2-52.2) |
| High school grad | 1,169 | 33.8 | (31.9-35.7) | 172 | 34.4 | (29.2-40.1) | 71 | 27.7 | (21.1-35.5) |
| Some college | 907 | 26.4 | (24.6-28.3) | 128 | 25.3 | (20.9-30.2) | 42* | 17.7 | (12.6-24.4) |
| College degree | 984 | 27.0 | (25.2-28.8) | 93 | 16.5 | (13.2-20.5) | 30* | 10.5 | (6.9-15.8) |
| Total n | 3,521 | | | 522 | | | 261 | | |
| Household income | | | | | | | | | |
| <\$15,000 | 263 | 7.0 | (6.1- 8.1) | 126 | 26.9 | (21.6-33.1) | 84 | 32.1 | (25.0-40.1) |
| \$15,000 - \$24,999 | 634 | 20.5 | (18.7-22.3) | 100 | 22.0 | (17.8-26.9) | 52 | 34.2 | (25.0-44.9) |
| \$25,000 - \$49,999 | 1,271 | 43.4 | (41.3-45.6) | 145 | 34.4 | (29.0-40.2) | 40* | 22.7 | (16.2-30.8) |
| >= \$50,000 | 836 | 29.0 | (27.1-31.1) | 66 | 16.7 | (12.5-21.9) | 17* | 11.0 | (6.4-18.4) |
| Total n | 3,004 | | | 437 | | | 193 | | |
| Employment status | | | | | | | | | |
| Employed | 2,484 | 72.4 | (70.6-74.1) | 225 | 46.6 | (41.1-52.1) | 29* | 13.8 | (8.21-22.2) |
| Out of work | 96 | 3.0 | (2.4- 3.8) | 24* | 5.4 | (3.1- 9.4) | 17* | 6.7 | (4.1-11.0) |
| Unable to work | 22* | 0.5 | (0.3- 0.9) | 54 | 11.3 | (8.1-15.5) | 83 | 37.0 | (29.3-45.4) |
| Other | 922 | 24.1 | (22.5-25.8) | 220 | 36.7 | (31.9-41.9) | 132 | 42.5 | (35.1-50.2) |
| Total n | 3,524 | | | 523 | | | 261 | | |

Another significant group difference was associated with age. Figure 1 shows the percentages of the study groups that were 18 to 44 year olds, 45 to 64 year olds, and age 65 and older. The results indicate that, among individuals with no disabilities, the proportion of 18 to 44 year olds (60%) was about twice as high as that found among the no-assist group (33.3%) and three times as high as that found among the yes-assist group (20.5%). By contrast, persons ages 45 and older were much more likely to be represented in the disability subgroups.

Figure 1. Distribution of age groups by disability status



There was a noticeably higher percentage of females in the yes-assist group (63%) than in the remaining two study groups: 51.4 percent females in the no-disability group and 52.0 percent females in the no-assist group. With regard to race, the distribution of whites and African Americans was consistent across the three study groups with approximately 80 percent of each group being white.

Health Care Coverage

Health insurance coverage is an important determinant of access to health care. Persons without health insurance coverage are less likely to have a usual source of health care and are less likely to receive preventive health services. The results of Table 3 demonstrate that North Carolinians with disabilities experience comparable levels of health care coverage as those with no reported limitations. The rate of self-reported health insurance coverage (any type) among the no-disability group was 89.4 percent, while the corresponding rates were 87.8 percent and 92 percent, among the no-assist and yes-assist groups respectively. Also, among older persons (65+ yrs.), the reported rates for Medicare coverage was very high for all study groups – as would be expected.

| Table 3. Health care coverage and utilization by disability status | | | | | | | | | |
|---|----------------------|----------|-----------------|-----------------------------|----------|-----------------|------------|----------|-----------------|
| | No Disability | | | Disability Subgroups | | | | | |
| | # | % | 95% C.I. | # | % | 95% C.I. | # | % | 95% C.I. |
| Any health care coverage | | | | | | | | | |
| Yes | 3,169 | 89.4 | (87.8-90.8) | 463 | 87.8 | (82.7-91.6) | 240 | 92.0 | (87.2-95.1) |
| Total n | 3,520 | | | 522 | | | 261 | | |
| Medicare coverage | | | | | | | | | |
| Ages 18 to 64 Yes | 69 | 2.7 | (2.1- 3.5) | 47* | 17.3 | (12.1-24.2) | 49* | 43.1 | (32.0-54.9) |
| Total n | 2,559 | | | 274 | | | 119 | | |
| Ages 65 & older Yes | 527 | 93.9 | (91.2-95.8) | 171 | 95.5 | (89.2-98.2) | 110 | 98.0 | (92.1-99.5) |
| Total n | 556 | | | 177 | | | 112 | | |
| Cost of care prohibits seeing a doctor past year | | | | | | | | | |
| Yes | 347 | 9.4 | (8.3-10.6) | 95 | 19.8 | (15.2-25.5) | 67 | 22.4 | (17.2-28.8) |
| Total n | 3,526 | | | 523 | | | 261 | | |
| Routine checkup past year | | | | | | | | | |
| Ages 18 to 64 Yes | 2,135 | 71.0 | (68.9-73.1) | 262 | 77.0 | (70.3-82.6) | 121 | 85.8 | (78.1-91.1) |
| Total n | 2,961 | | | 338 | | | 143 | | |
| Ages 65 & older Yes | 497 | 85.3 | (81.2-88.7) | 159 | 90.7 | (85.0-94.4) | 106 | 95.4 | (89.7-98.0) |
| Total n | 569 | | | 176 | | | 112 | | |

*Results should be interpreted with caution due to small numerator.

For persons under the age of 65, however, Medicare coverage rates were substantially different: 43.1 percent for the yes-assist group, 17.3 percent for the no-assist group, and 2.7 percent for the no-disability group. These group differences can largely be explained by the fact that Medicare benefits for persons under age 65 are available only for those with disabilities who become eligible for SSI (Supplemental Security Income), due to the severity of their limitation. Thus, we may infer that, for persons under age 65 with disabilities, those requiring personal care assistance are likely to experience the highest levels of impairment.

Consistent with low socio-economic status (yet despite similar levels of health insurance coverage), both disability subgroups were more likely to report that the cost of care prohibited them from seeing a doctor in the past year than those with no limitations (22.4% and 19.8% for the yes- and no-assist groups respectively, versus 9.4% for the no-disability group).

The report of a routine medical checkup within the past year was highest among the disability population, particularly among those between 18 and 64 years old. This trend may well reflect the greater need for routine medical care among the disabled population.

Health Status

Studies have shown that self-rated health provides a broad indicator of health and well-being, incorporating a variety of physical, emotional and personal components of health.⁴ In the BRFSS, perceived health is measured on a five- point scale, ranging from excellent to poor. As shown in Table 4, self-assessed poor health was very prevalent among persons with disabilities requiring assistance of some kind. Over 77 percent of individuals with a disability needing assistance reported their health as fair or poor, which was about two times higher than the comparable rate found in the no-assist group (38.0%), and almost ten times higher than the rate for the no-disability group (8.0%). Contrary to the traditional model, which automatically equates disability with poor health, more than half (62%) of individuals with a disability not requiring assistance rated their health as either good, very good, or excellent.

A second and related measure of health status is satisfaction with life. Life satisfaction has been associated with various dimensions of well-being, such as one's physical, emotional, and spiritual well-being.⁵ The results in Table 4 indicate that persons without a reported disability were more likely to report being satisfied with life than those with a disability of some kind. Over 95 percent of those in the no-disability group reported being 'very satisfied' or 'satisfied' with life; this compares to 88.1 percent among the no-assist group and 82.3 percent among the yes-assist group.

Emotional support often is derived from a person's social support systems. Research suggests that social support helps a person cope with stress and that supportive relationships are a protective factor in various life situations.⁶ Emotional support has also been found to protect against unhealthy outcomes such as heart disease, pregnancy complications, and depression.⁷ The study results indicate that the reported rate of 'always or usually' receiving sufficient social and emotional support among the no-disability group (78.3%) was somewhat higher than the corresponding rate for the yes-assist group (72.6%), and significantly higher than the reported rate for the no-assist group (65.5%). Furthermore, with respect to the risk of rarely or never receiving sufficient emotional support, the rate for the disability population (about 14% overall) was more than twice that of the no-disability population (5.6%).

| Table 4. Perception of health and satisfaction with life by disability status | | | | | | | | | |
|--|----------------------|----------|-----------------|-----------------------------|----------|-----------------|-------------------|----------|-----------------|
| | No Disability | | | Disability Subgroups | | | | | |
| | # | % | 95% C.I. | No-assist | | | Yes-assist | | |
| | # | % | 95% C.I. | # | % | 95% C.I. | # | % | 95% C.I. |
| Perception of health | | | | | | | | | |
| Excellent / very good | 2,196 | 63.5 | (61.6-65.4) | 152 | 28.2 | (23.8-33.0) | 26 | 9.5 | (6.1-14.4) |
| Good | 1,013 | 28.5 | (26.8-30.4) | 167 | 33.8 | (28.5-39.6) | 42 | 12.7 | (8.9-17.8) |
| Fair or poor | 317 | 8.0 | (7.0- 9.0) | 201 | 38.0 | (32.9-43.3) | 193 | 77.8 | (71.4-83.1) |
| Total n | 3,526 | | | 520 | | | 261 | | |
| Satisfaction with life | | | | | | | | | |
| Very satisfied | 1,555 | 45.2 | (43.2-47.3) | 148 | 29.8 | (24.9-35.1) | 74 | 31.0 | (23.2-39.9) |
| Satisfied | 1,809 | 50.7 | (48.6-52.7) | 309 | 58.3 | (52.8-63.7) | 139 | 51.3 | (43.0-59.6) |
| Dissatisfied or very dissatisfied | 145 | 4.1 | (3.4- 5.0) | 55 | 11.9 | (8.8-15.8) | 36* | 7.7 | (11.7-25.8) |
| Total n | 3,509 | | | 512 | | | 249 | | |
| Emotional support | | | | | | | | | |
| Always or usually | 2,670 | 78.3 | (76.7-79.9) | 337 | 65.5 | (60.1-70.5) | 180 | 72.6 | (65.8-78.6) |
| Sometimes | 580 | 16.1 | (14.7-17.6) | 109 | 20.4 | (16.6-24.9) | 43* | 13.8 | (9.9-18.9) |
| Rarely or never | 230 | 5.6 | (4.9- 6.5) | 66 | 14.1 | (10.4-18.7) | 31* | 13.6 | (9.3-19.3) |
| Total n | 3,480 | | | 512 | | | 254 | | |

*Results should be interpreted with caution due to small numerator.

Health-Related Conditions that Affect Quality of Life

The CDC defines health-related-quality of life (HRQOL) as “an individual’s or group’s perceived physical and mental health over time.”⁸ Measurement of this concept helps us to identify groups in the adult population with potentially unmet health needs. For this analysis, we examine three factors that can adversely impact an individual’s quality of life: frequent physical pain, frequent sadness, and frequent anxiety. In the BRFSS Survey, these HRQOL variables are constructed from the respondent’s recall of the number of days during the previous 30 days when these conditions were present, such as the number of days when physical pain made it difficult to perform usual activities. Respondents who reported experiencing 15 or more days of pain, sadness, or anxiety were considered to be at high risk for poor quality of life.

The results of Table 5 show that the report of frequent pain is exceptionally high among persons with disabilities needing assistance: close to two-thirds of these respondents (61.5%) reported being in pain 15 or more days out of the previous 30 days. Similarly, the rate of frequent pain among the no-assist group (24.9%) was substantially higher than the rate for the no-disability group (2.8%). Indeed, the perception or experience of frequent pain clearly differentiates the disability population from the non-disabled population.

Emotional health problems, such as persistent feelings of sadness or depression, are known to be an important issue for people with disabilities. Both disability study groups were significantly more likely to report frequent sadness (15 to 30 days) than persons with no disability (Table 5). More than one-third of the yes-assist group (34.6%) and about 15 percent of the no-assist group reported frequent sadness, compared to 4 percent (1 out of 25 persons) among the no-disability group. These results suggest that emotional volatility or depressed mood is a substantial problem for persons with disabilities, particularly for those needing personal care or help with routine needs.

| Table 5. Health-related quality of life conditions by disability status | | | | | | | | | |
|--|----------------------|----------|-----------------|-----------------------------|----------|-----------------|------------|----------|-----------------|
| | No Disability | | | Disability Subgroups | | | | | |
| | # | % | 95% C.I. | # | % | 95% C.I. | # | % | 95% C.I. |
| Pain / past 30 days | | | | | | | | | |
| 1 to 14 days | 512 | 14.5 | (13.1-15.9) | 132 | 26.9 | (22.3-32.1) | 48* | 21.8 | (15.1-30.4) |
| 15 to 30 days | 98 | 2.8 | (2.2- 3.5) | 135 | 24.9 | (20.4-30.1) | 142 | 61.5 | (53.1-69.3) |
| No pain days | 2,864 | 82.7 | (81.2-84.2) | 236 | 48.2 | (42.6-53.8) | 55 | 16.7 | (12.2-22.3) |
| Total n | 3,474 | | | 503 | | | 245 | | |
| Sad / past 30 days | | | | | | | | | |
| 1 to 14 days | 1,216 | 34.6 | (32.7-36.6) | 172 | 33.2 | (28.3-38.4) | 74 | 31.2 | (24.0-39.5) |
| 15 to 30 days | 154 | 4.0 | (3.3- 4.8) | 74 | 15.4 | (11.4-20.7) | 79 | 34.6 | (27.2-42.9) |
| No sad days | 2,064 | 61.4 | (59.4-63.4) | 253 | 51.4 | (45.8-57.0) | 91 | 34.2 | (26.6-42.7) |
| Total n | 3,434 | | | 499 | | | 244 | | |
| Anxious / past 30 days | | | | | | | | | |
| 1 to 14 days | 1,501 | 44.1 | (42.1-46.1) | 163 | 33.2 | (28.3-38.6) | 66 | 28.1 | (20.8-36.8) |
| 15 to 30 days | 333 | 9.5 | (8.4-10.7) | 102 | 21.6 | (16.8-27.2) | 88 | 37.8 | (30.1-46.2) |
| No anxious days | 1,603 | 46.4 | (44.4-48.5) | 234 | 45.2 | (39.7-50.8) | 84 | 34.1 | (26.5-42.6) |
| Total n | 3,437 | | | 499 | | | 238 | | |

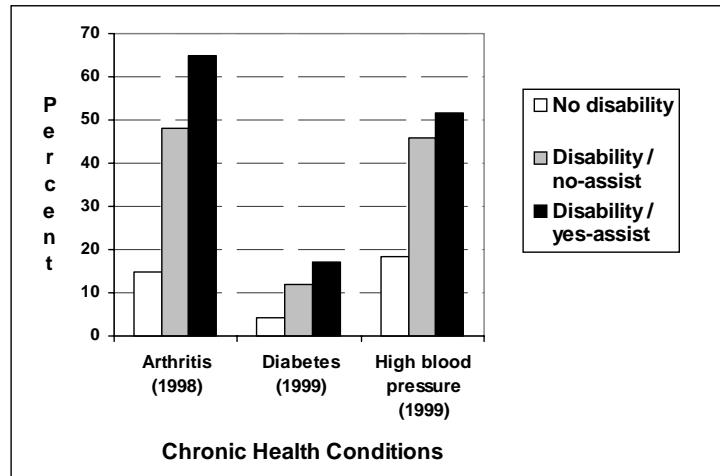
*Results should be interpreted with caution due to small numerator.

With regard to the experience of frequent anxiety (15 to 30 days), the study results follow the same pattern as those observed for frequent sadness. People with disabilities were significantly more likely to report frequent worry, tension, or anxiety, than those with no disability. The results also show that, for all study groups, respondents tend to report more anxiety days than sad days. For example, 61.4 percent of the no-disability population reported no sad days out of the previous 30 days; for this same group, only 46.4 percent reported no anxiety days out of the previous 30 days.

Chronic Health Conditions and Disability

The BRFSS has been used to develop prevalence estimates for important chronic health conditions such as diabetes, arthritis, and high blood pressure. Figure 2 shows that both disability subgroups were significantly more likely than the no-disability population to report that they had these chronic health conditions (as told to them by a doctor). A confounding factor in these types of analyses, however, is that high blood pressure, for example, could be the primary condition accounting for one's disability, or a secondary condition. As a secondary condition, high blood pressure constitutes an additional (preventable) "burden of disease" for individuals whose underlying disability resulted from a different cause.

Figure 2. Prevalence of chronic health conditions by disability status

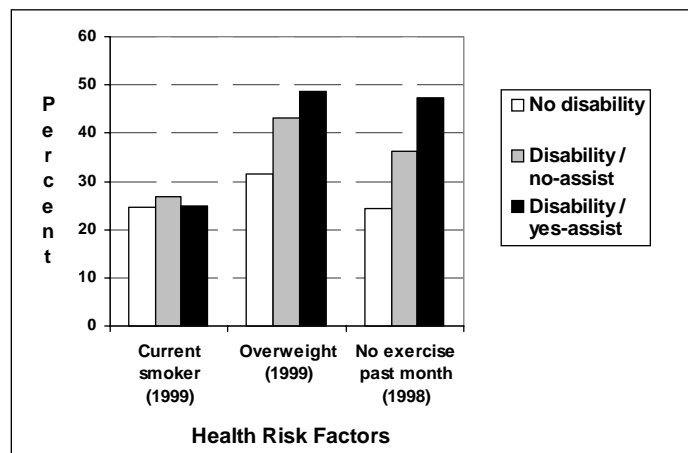


Health Risk Behaviors

While people with disabilities in North Carolina are experiencing higher rates of disease than those without disabilities, many of the risk factors are modifiable. Changing lifestyle and behaviors can reduce the severity of, and potentially prevent, some major diseases and conditions. Figure 3 presents information on three health risk factors: smoking, being overweight, and no physical activity in the past month. Smoking is a leading cause of preventable death and leads to an increased risk for heart disease, stroke, lung cancer, and other respiratory diseases. Being overweight is a known risk factor for heart disease, stroke, hypertension, diabetes, and other chronic conditions. Regular physical activity can reduce the risk of developing many chronic conditions and lower the risk of premature death and disability.

The percentage of current smokers was about the same for those with and without a disability. However, individuals with disabilities were significantly more likely to engage in no physical activity and to be overweight than individuals without disabilities. Greater attention to targeting persons with disabilities for community-based health promotion and risk reduction efforts is clearly indicated.

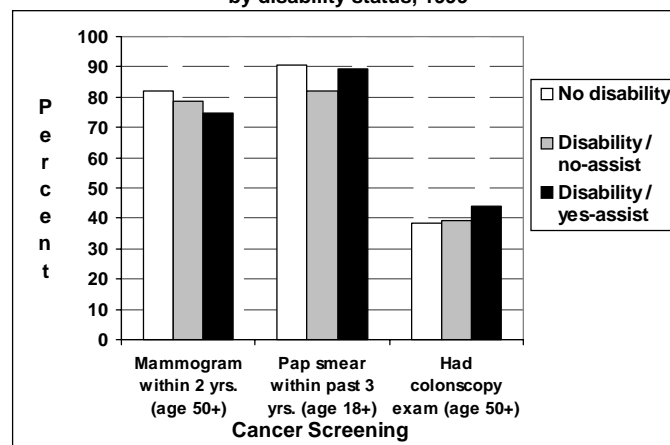
Figure 3. Prevalence of health risk factors by disability status



Preventive Health Screenings – Cancer

Routine screening for cancer through regular mammograms and pap smears for women, and colonoscopy screenings for men and women, are early detection strategies recommended for all adults. The results indicate that individuals with disability were not significantly less likely to receive these exams. As shown in Figure 4, the differences between the three study groups for these three procedures were small. (This is in contrast to national data that indicate less frequent mammograms for women over age 55 with disabilities.)⁹ Close monitoring of cancer screening rates among people with disabilities is indicated. We can expect a clearer picture to emerge as data on greater numbers of adults become available with more years of the BRFSS survey with the disability questions.

Figure 4. Prevalence of breast, cervical, and colon cancer screening by disability status, 1999



Discussion

Disability and Health Disparities

Disability affects every individual, community, neighborhood, and family either directly or indirectly. There are hundreds of different disabilities. Some are present from birth; many come later in life. Some are chromosomal, like Down syndrome. Some are progressive, like muscular dystrophy or cystic fibrosis. Some disabilities are visible, while others, like diabetes and epilepsy, are invisible. Disability is a natural part of the human experience.

Disparity issues related to disability in North Carolina are complex. People with disabilities, like other groups that have been historically disadvantaged, have higher rates of unemployment, lower incomes, lower educational attainment, and lower satisfaction with life than the general population of North Carolina adults. Although the Americans with Disabilities Act (ADA), enacted in 1990, was created to address many of the barriers to participation in society, full implementation is far from being realized.

NC BRFSS data identify some noteworthy health disparities between people with and without disabilities. These disparities include excess weight, reduced physical activity, and a greater likelihood of not seeing a doctor due to the cost of care. People with disabilities also report more days of pain, depression, anxiety, and sleeplessness than people without disabilities. In particular, the results from this study show that these disparities are even more pronounced for persons with disabilities in need of personal care assistance. Like other high-risk minority populations, the characteristics and health-related needs and experiences of people with disabilities must be taken into account in crafting effective health interventions.

People with disabilities may encounter significant structural, financial, and personal barriers that limit their access to health programs and services. Access barriers may be further compounded for individuals with disabilities who are poor, elderly, members of racial, ethnic, cultural or linguistic minority groups, or who live in rural areas.

People with disabilities are at risk for developing the same chronic conditions as the rest of the population, including high blood pressure, heart disease, stroke, cancer, diabetes, and depression. In some instances, people with disabilities may even be at increased risk. They need quality health promotion and disease prevention services.

Self-care and counseling, screening for early detection, appropriate and timely treatment of health conditions, and early recognition and reduction of known risks are critical for people with disabilities. Many of the health promotion programs developed for use in the general population can be used directly with this population. In some cases, new strategies will need to be adapted or developed, particularly to increase the accessibility of programs and services.

Progress Toward National and State Goals

Through Healthy People 2010, national disease prevention and health promotion objectives have been established. The first set of national targets was published in 1990 with targets now updated for 2010. Healthy People 2010 includes 13 objectives specifically targeting people with disabilities, and the disability chapter refers to related objectives from other chapters. In other chapters, disability is being used as a demographic category to identify health disparities within the general population. The BRFSS provides a valuable mechanism for establishing North Carolina baselines in relation to key Healthy People 2010 objectives, and also for monitoring progress toward these objectives for people with disabilities, and for the general population, in the years to come.

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